Abritus 72 Ltd.

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ABRITES Commander for VAG

User Manual

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1INTRODUCTION

“Abrites VAG Commander” is a Windows PC based diagnostic software for the vehicles from VAG. With the help of this tool you can perform operations with vehicles from the VAG group, which are in most cases unsupported from the producer diagnostic testers. The “Abrites VAG Commander” provides you also a full diagnostic capabilities for VAG-vehicles.

2INSTALLATION

Your set consists of one interface (USB to OBDII). Optionally you might have a programmer which is connected either to the USB port of the PC, or to the interface (USB to OBDII).

2.1Installing USB Interface drivers

The drivers are installed automatically when installing the software.
In case of some problem with the drivers you might download latest drivers from www.ftdichip.com

2.2Uninstalling USB Interface drivers

In case the installed USB drivers are corrupted and/or stop work properly (your USB Interface is not recognized by the PC) you can try to fix the problem by uninstalling and then reinstalling them, for to start over with a clean slate.
Uninstalling USB interface drivers can be done by running the FTClean program.
You can find it in the “USB Interface Drivers” sub-folder of your ABRITES Commander or download it from the Internet using the following link:

http://www.ftdichip.com/Resources/Utilities/FTClean.zip

The following is a step by step for using FTClean to remove drivers:
Unpack and run FTClean.exe.

Click on **Clean System** button.

Disconnect all FTDI devices from the PC and click on **OK** button.

Click on **Yes** button.

Click on **No** button to start removing driver.

Uninstallation has finished.

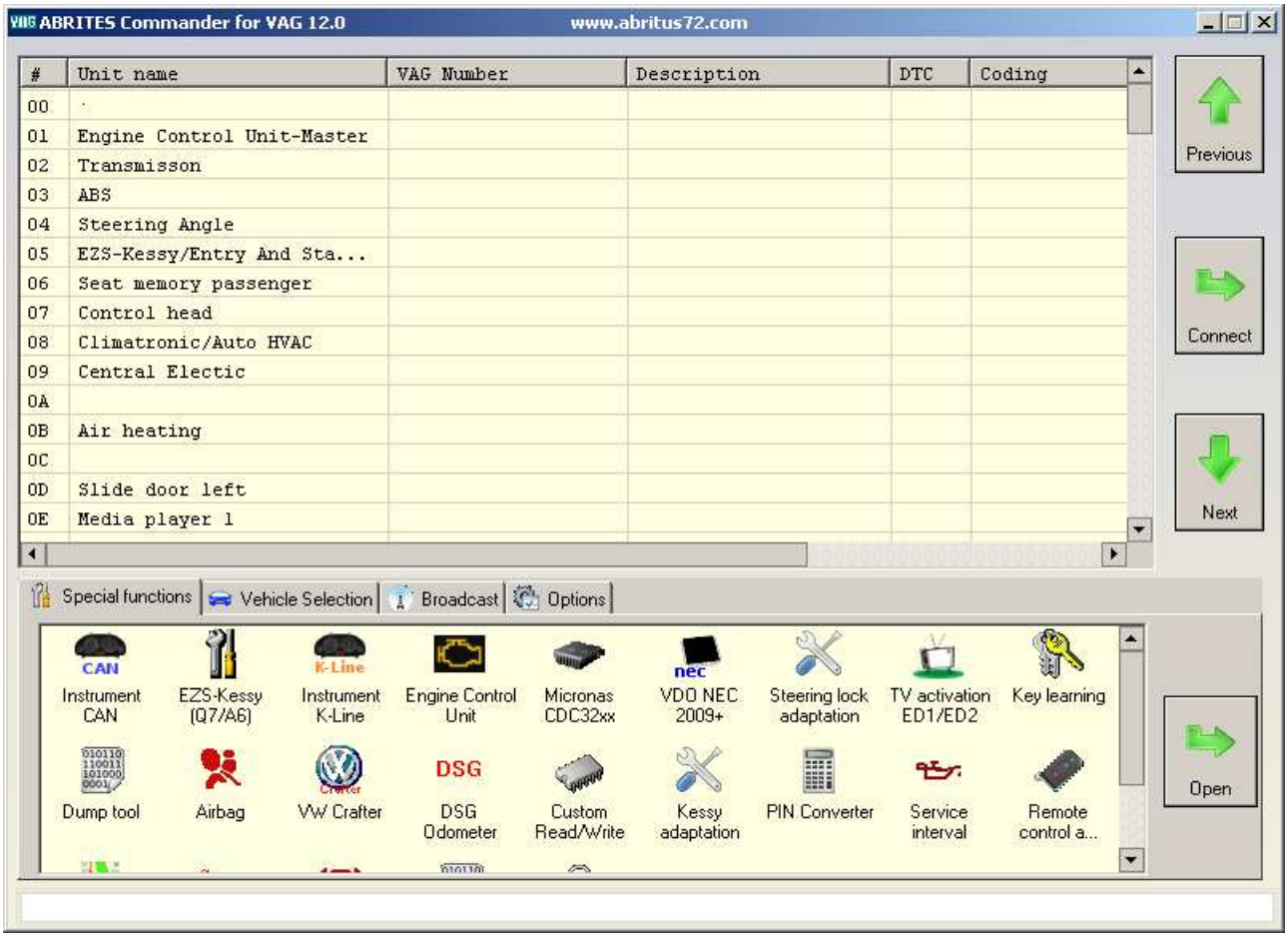
Important! Do not forget to reinstall the drivers following the instructions from point 2.2 “Installing USB Interface drivers”.

2.3Installing “ABRITES Commander for VAG”

The “ABRITES Commander for VAG” is contained into the installation package, so please run the setup program.

Now you are ready to start the "ABRITES Commander for VAG"
When starting the software, there is a splash screen appeared, where the connection with the hardware is examined. **If no problem appear, then a message “Connection OK” should appear!**

The main screen looks like this:



ATTENTION:

Make sure you are running the "ABRITES Commander for VAG" from its folder. If you are using a shortcut to the "ABRITES Commander for VAG", please be sure that the "working folder" parameter is set to the folder where the executable is placed! If the "working folder" of the shortcut is not set the K-Line may function incorrectly.

3Diagnostic with “ABRITES VAG Commander”

The “ABRITES VAG Commander” consists basically of two parts:
–Standard diagnostic functions like reading/clearing trouble codes, device identification, adaptation, measured values, etc.
–Special functions like odometer correction, reading login (PIN), reading EEPROM, etc.

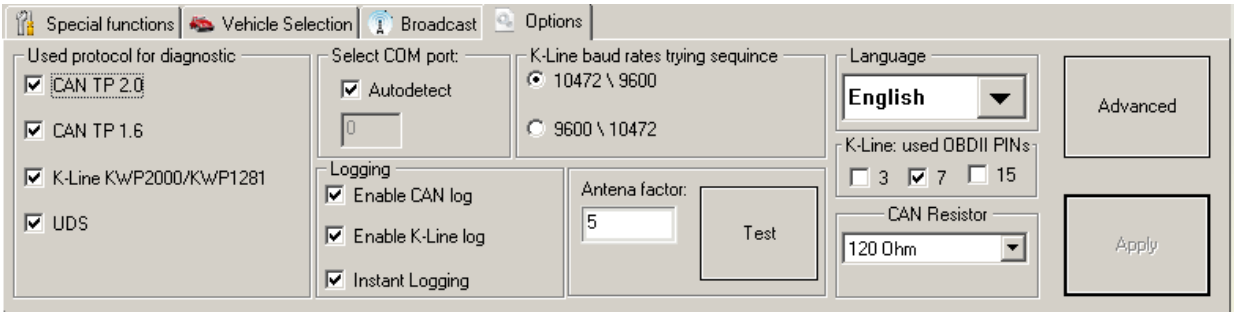
All devices, which can be installed into the car are listed in the main screen of the “ABRITES VAG Commander” with their VAS-Number. If you want to connect to some device please double click on it. The “ABRITES VAG Commander” will try to connect to the device using consecutively the following protocols:

-KWP2000 over TP2.0 with baud 5000KB/s (CAN)
-KWP2000 over TP1.6 with baud 5000KB/s (CAN)
-UDS over ISO transport protocol (CAN)
-KWP1281 or KWP2000 over K-Line (the protocol is recognized automatically from the wake-up pattern).

You can choose which of these protocols to try when attempting to connect as described in the “Configuration” section.

3.1Configuration

The “ABRITES Commander for VAG” can be configured by pressing the “Options” button from the main screen. The following dialog is displayed:



NOTE: changes regarding interface detection and timing parameters which you made in this dialog will be applied after restarting the application.

3.1.1Used protocols

The meaning of the check-boxes is as follows:

-CAN TP2.0 – when trying to connect to the device the commander will try to connect to it using “KWP2000 over TP2.0 with baud 500KB/s”
-CAN TP1.6 – when trying to connect to the device the commander will try to connect to it using “KWP2000 over TP1.6 with baud 500KB/s”

-UDS - when trying to connect to the device the commander will try to connect to it using “UDS over ISO transport protocol” with baud 500KB/s

-K-Line KWP2000/KWP1281 - when trying to connect to the device the commander will try to connect to it using “KWP1281 or KWP2000 over K-Line”

NOTE: These check-boxes are used for configuring only the used protocols when trying to connect to the device in order to perform standard diagnostic requests, they are not applied when auto-scanning devices.

3.1.2Interface detection

Normally the “ABRITES VAG Commander” USB Interface is recognized automatically, but there is an option to set it manually. So if you have troubles as described in the “Troubleshooting” section you can try to set the port used by the “ABRITES VAG Commander” manually. This can be done as follows:

-Open the “Device manager” and check as which COM port the USB interface is recognized

-Uncheck the “Automatic” check-box and set the port in the respective field.

3.1.3K-Line baud rate settings

When trying to connect to the device over K-Line the commander will try to connect to it using one baud rate and if it doesn't succeed it will switch to another baud rate and try again. There are two baud rate values currently used – 10427 and 9600. Using the “10472 \ 9600” and “9600 \ 10247” radio-buttons within the options dialog one can set the order in which these two baud rate values will be used.

If “10472 \ 9600” is selected, then first the commander will try to connect to the device over K-Line using baud rate 10472 and if it doesn't succeed, it will switch to 9600 and try again with it. If “9600 \ 10472” is selected, then first the commander will try to connect to the device using baud rate 9600 and if it doesn't succeed it will switch to 10472 and try again with it.

ATTENTION: Some device working on baud 9600 cannot be waked up if they are first tried on baud 10472, so if you cannot connect to device through the K-Line, try to change the options so first to try on 9600.

3.1.4Timing parameters

The protocols running under K-Line require very precise byte timing. Since Windows is not a real-time operating system, these times are not always respected, so it is possible that the communication with some devices is unstable, or it is not possible to connect. In such cases you can try to change some of the times timing parameters from the “Advanced” button.

The timing parameters have the following meaning:

-Wakeup echo delay – time after slow init between receiving “55 xx yy” and sending the inverted value of “yy” (according the K-Line wakeup procedure)

-Communication echo delay – time between reception of a byte under KWP1281 and sending it inverted back to the device

-Inter byte time – time between sending two bytes under KWP2000

-Time between messages – time delay between reception of response from device and sending new request to it.

3.1.5Logging parameters

It is possible to log the whole CAN/K-Line communication when a problem with some device is occurred. This is possible by checking the “Enable CAN Log” or “Enable K-Line Log” check-boxes from the options dialog. Please note that they are active by default. The log-files are binary files which are placed in the “Trace” sub-folder of the ABRITES VAG Commander. Per each start of the ABRITES VAG Commander one file is created, and it contains the date/time when it is created in its filename.

NOTE: In some operation systems the ABRITES VAG Commander installation folder is created with restricted permissions for creating/writing files. As a result the ABRITES VAG Commander cannot create the log-files. In this case at the startup of the Commander you will see a warning message like this:

Warning
Cannot create log file. The diagnostic communication will not be logged. Please check the permissions of the "TRACE" folder where this application is installed! Refer to USER MANUAL for help.
OK

For to remove the restrictions, go to the ABRITES VAG Commander installation folder, right-click the “Trace” folder, click Properties, and then click Security tab.
Remark: If you are using Windows Vista, click Edit to open the permissions for “Trace” folder.
For all users in the “Group or user names” section select the “Allow” check-box for “Full control” in the “Permissions for users” section. Click Apply.
Refer also to topic “Set, view, change, or remove file and folder permissions” from the Windows Help and Support Center.

NOTE: Please pay attention that enabling logging may significant decrease the PC performance since writing big data block on the hard drive may consumes more time on slower machines. So if your PC is slower, please use the log function only when a problem have to be reported.

3.1.6Antenna factor

This parameter is applicable only to the Hitag2 programmer, not applicable for the other Key programmers.
The parameter is used to specify the amplify factor of the antenna. You should specify a value in the range from 0 to 9, typical value should be 5.
With the “Test” button you can see whether with the current value the programmer reads the properly. If you get a message that the transponder is read on 100%, then the present antenna factor is OK.

3.1.7K-Line PINs

Normally the K-Line is output on PIN7 of the OBDII connector. But some models (e.g. Porsche Cayenne 2004) the K-Line with some units might be on PIN3 or PIN15. For that reason there is a option on which PINs to try to connect to the units..

ATTENTION: If you check all PINs to be examined (I.e. PIN3, PIN7, PIN15) then when scanning for units the time will will be significantly increased. For that reason by default only PIN7 is selected.

3.1.8CAN resistance

According the CAN specification there should be a resistance between CAN-Low and CAN-High. Normally the gateway has this resistance, but if you want to connect on some device on the table then you should use that resistance. For that reason there is a option what resistance to use – None, 75 Ohme, 100 Ohm, 120 Ohm, or 10 Kiloohme. By default 120 Ohm is used. Normally you should don't have any problems, but if some problem appear you can try to change the CAN resistance.

3.2Scanning units

After startup on the main screen of the “ABRITES VAG Commander” a list of all possible units with their VAS-Number is displayed.
The customer is able to connect to the listed devices by double-clicking on the desired device.

Instead of displaying all possible units you can choose a configuration of devices corresponding to specific car model (chassis type). This is done by selecting the type (e.g. “1T - VW Touran") from the “Chassis type” combo-box. Then pressing the “Display button” will show all devices which can be installed into this car type.

Pressing the “Scan all” button will attempt to connect to each device currently displayed in the list. Depending on the configuration options only the selected protocols will be used when scanning for the devices.

For all devices, which the “ABRITES VAG Commander” finds, a detailed information is displayed in the main screen. For each device the following information is shown:

-VAS Number
-Unit name
-VAG Number - returned by device in the device identification
-Description - returned by device in the device identification
-Coding - returned by device in the device identification
-Part / Imp / Supp N (Part number / Importer number / Supplier number) – information is shown separated with spaces, also returned from the device in the device identification
-DTC – number of DTCs stored in the unit

Instead of scanning all units (which can take a while) the user retrieves the list of the installed devices from the gateway by pressing the “Gateway config list” button.

Since clearing of the DTCs for all existing devices is one of the main diagnostic operations, and broadcast requests for clearing DTCs are not accepted from all units, there is a possibility to scan all devices and if connection to the device is possible, then its DTCs are cleared. This is made by pressing the “Clear all DTCs” button from the “Auto scan devices” panel. Once again, the protocols used to connect to the devices are specified in the configuration options.

3.3Broadcast requests

Broadcast requests are these requests which are sent to all or a group of devices simultaneously. The “ABRITES VAG Commander” is able to send broadcast requests to all devices with request to enter into a desired transport mode, to clear all DTCs in all devices, to disable/enable the communication of all devices. This is done by pressing the corresponding button from the “CAN Broadcast” panel.

Available functions are:

[Transport Mode]
Entering into or leaving the vehicle from Transport Mode that is used by the factory to put the cars into a "sleep" to conserve battery charge during long periods of inactivity.

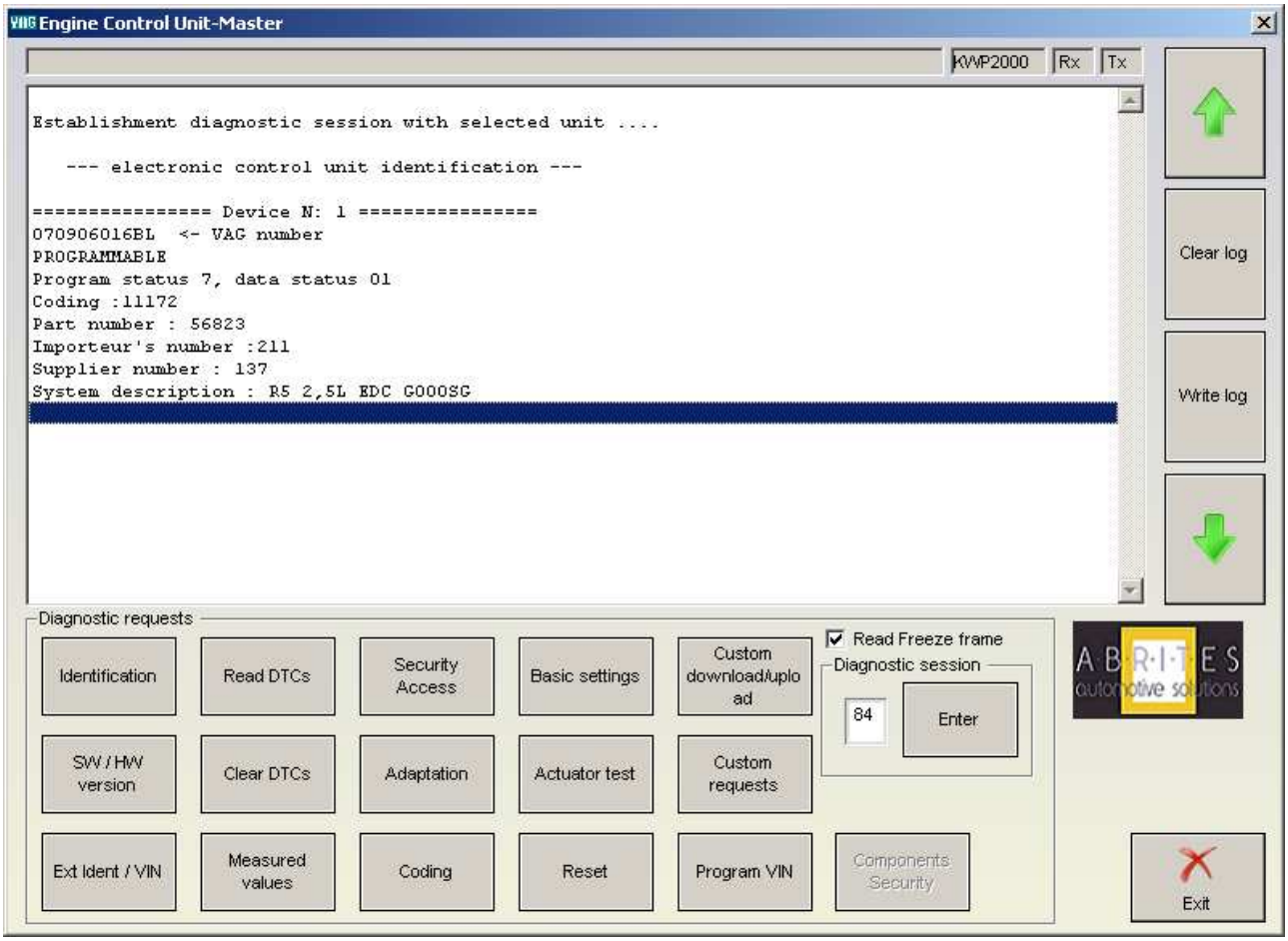
[Disable Normal Communication]
This function will disable all communication between units in the car. This can help you to hold current state of the car and to prevent disturbing of communication while re-flashing.

[Enable Normal Communication]
Restore normal message transmission.

[Clear All DTC’s]
Sending requests to all units in vehicle to erase its DTCs,

3.4Standard diagnostic requests

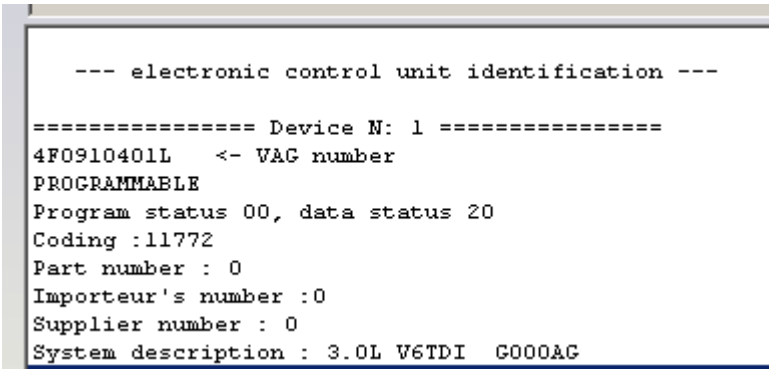
When double-clicking on the desired device in the main “ABRITES VAG Commander” window, you connect to the device to proceed standard diagnostic requests. The following dialog is opened:



This dialog provides you the possibility to execute the following diagnostic requests:

3.4.1Identification

“Identification” will provide you the VAG part number and software coding.


--- electronic control unit identification ---
================ Device N: 1 ================
4F0910401L <- VAG number
PROGRAMMABLE
Program status 00, data status 20
Coding :11772
Part number : 0
Importeur's number :0
Supplier number : 0
System description : 3.0L V6TDI G000AG

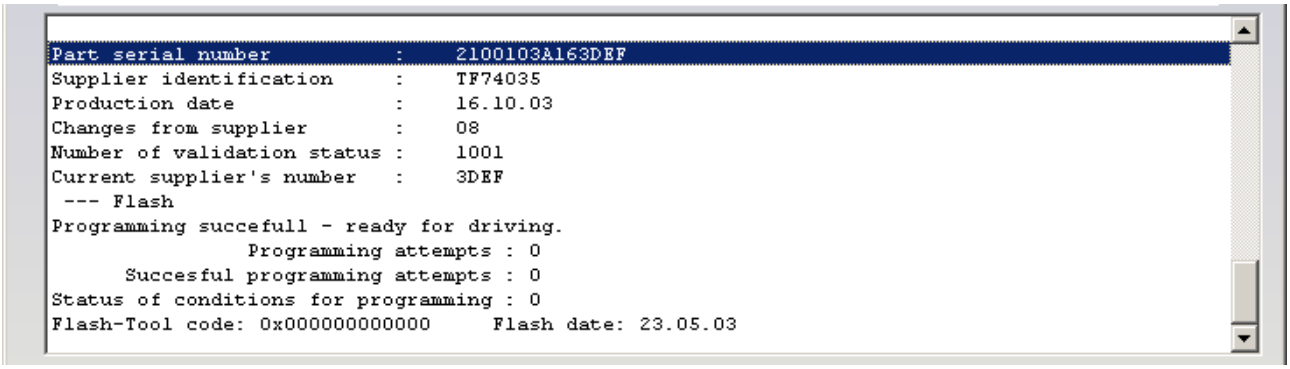
3.4.2Software and Hardware version of the unit

“SW/HW version” displays (if the service is supported by the corresponding controller) the SW and HW version of the unit (including all slave units of the master unit).

==== SW/HW version
SW version of module 1 : K2.6.9
SW version of module 2 : D2.6.9
SW version of module 3 : M2.6.9
SW version of module 4 : A4.7.6a
SW version of module 5 : XPQ35_V19_02
Hardware number : 1K0907951

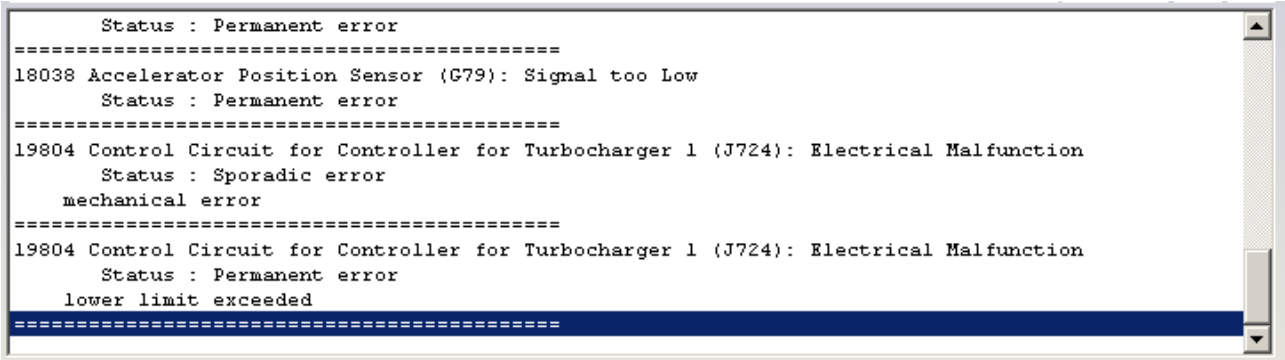
3.4.3Extended Unit Identification

“Extended identification / VIN” displays programming data, flash status, programming attempts, flash date, VIN number.


Part serial number : 2100103A163DEF
Supplier identification : TF74035
Production date : 16.10.03
Changes from supplier : 08
Number of validation status : 1001
Current supplier's number : 3DEF
--- Flash
Programming succefull - ready for driving.
Programming attempts : 0
Succesful programming attempts : 0
Status of conditions for programming : 0
Flash-Tool code: 0x000000000000 Flash date: 23.05.03

3.4.4Read Diagnostic Trouble Codes

“Read DTCs” will display all present errors in master and slave units.
Displayed errors can be together with freeze frame data (this depends on the checkbox “Read Freeze frame”)

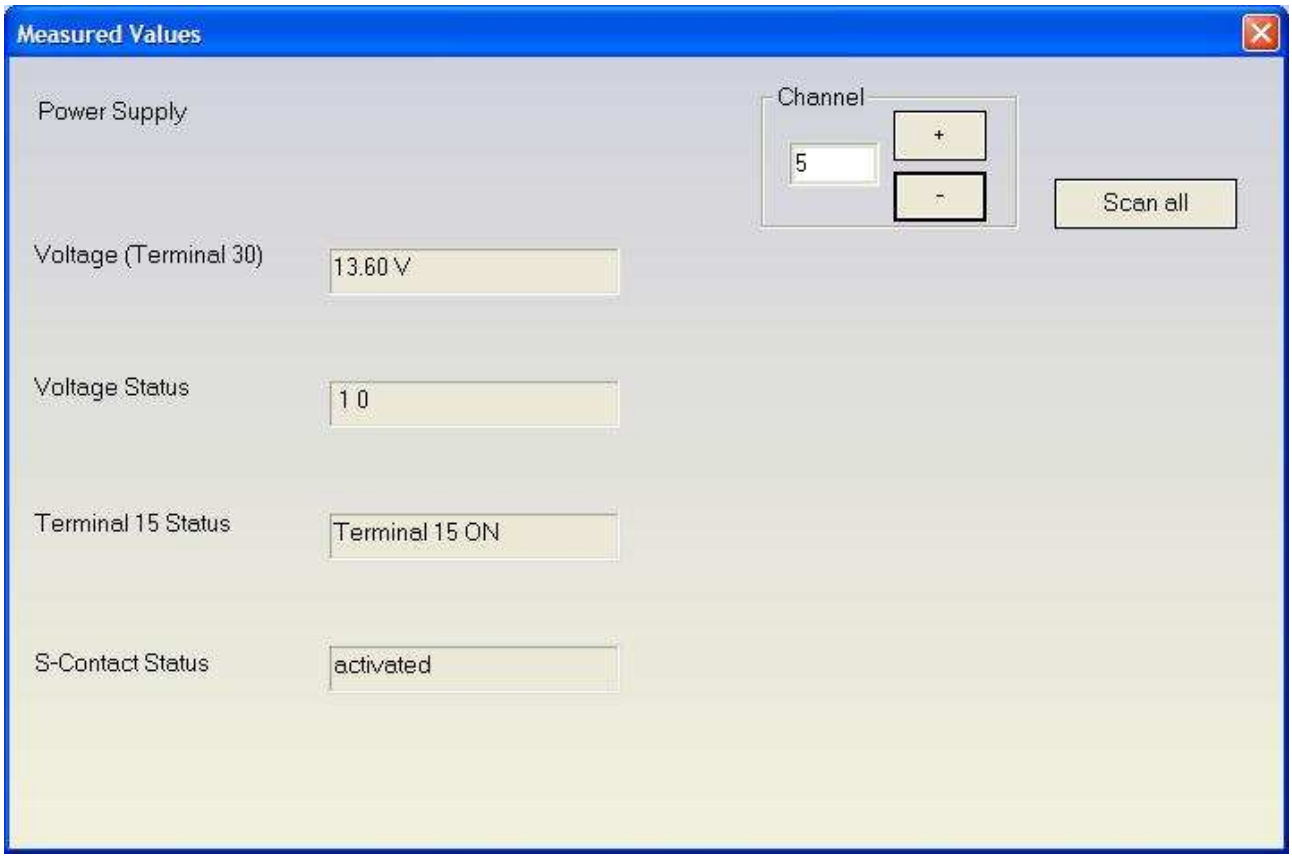

Status : Permanent error
==========
18038 Accelerator Position Sensor (G79): Signal too Low
Status : Permanent error
==========
19804 Control Circuit for Controller for Turbocharger 1 (J724): Electrical Malfunction
Status : Sporadic error
mechanical error
==========
19804 Control Circuit for Controller for Turbocharger 1 (J724): Electrical Malfunction
Status : Permanent error
lower limit exceeded
==========

3.4.5Clear Diagnostic Trouble Codes

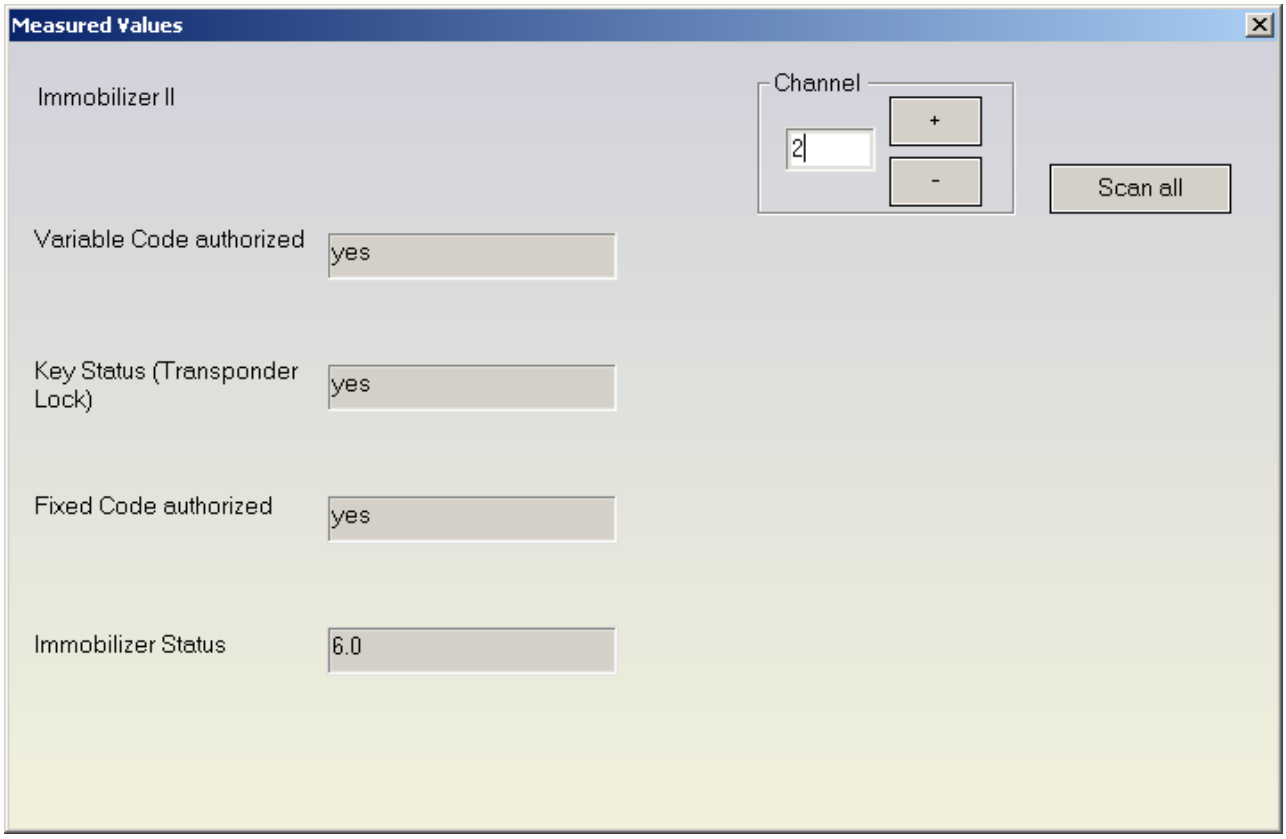
“Clear DTCs” will clear all stored DTCs inside of the unit.

3.4.6Measured values

“Measured values” provide you a possibility to check measured values in different groups.
You can enter manual number of the group or use “+”/”-“ to increment or decrement the group number.



The button “Scan all” will generate a file with all measurement values from all groups.

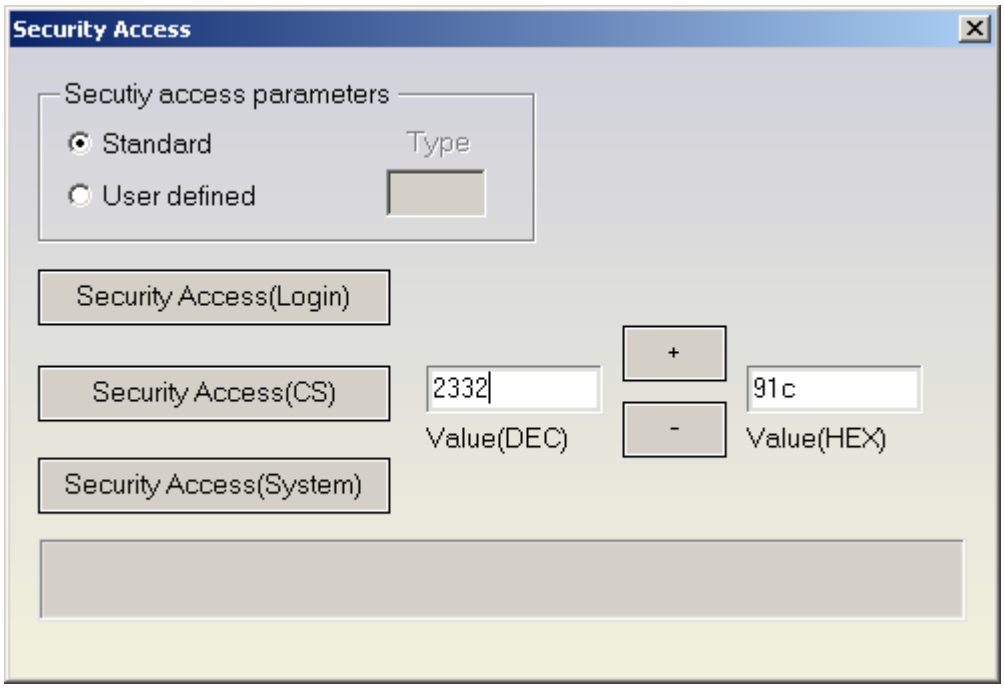


Some important measured values:

The most used measured value is the key recognition in the immobilizer. The key recognition is made on channel 2 if the Immobilizer is by CAN, or on channel 23 if the immobilizer is by K-Line. The only exception is the Q7/A6/Allroad where the recognition is made also on channel 23.

3.4.7Security Access

“Security Access” gives you the possibility to perform security authorization on different levels.



3.4.7.1Standard Security Access

This type of security access can be:

- “Security Access (Login)” – usually used in immobilizer systems
- “Security Access (Component Security)” – usually used during adaptation of different units/parts
- “Security Access (System Specific)” – security access different from the previous two and different from authorization for programming session.

Hints:

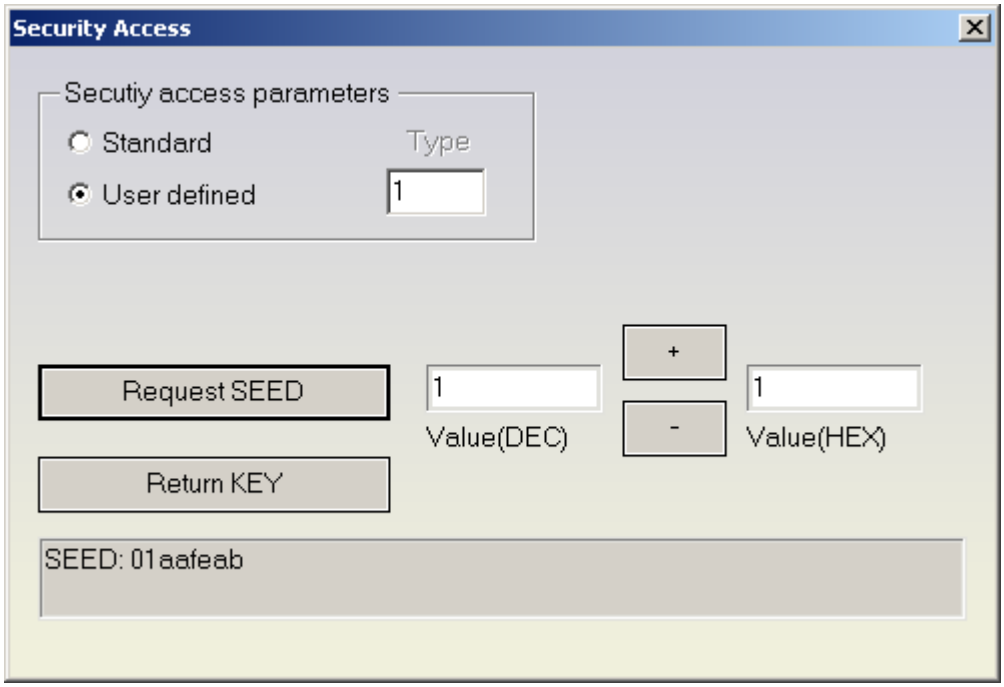
-When device to which you connect is using “KWP1281” diagnostic protocol, then only “Security Access (Login)”

-If you want to put the security access to the ECU you should use “Security access (CS)”. This will allow you access to adaptation channel 50

-If you want to put the security access on the Immobilizer you should use “Security access (CS)”. If you’ve a error message that it is not supported, you should use then “Security access (Login)”

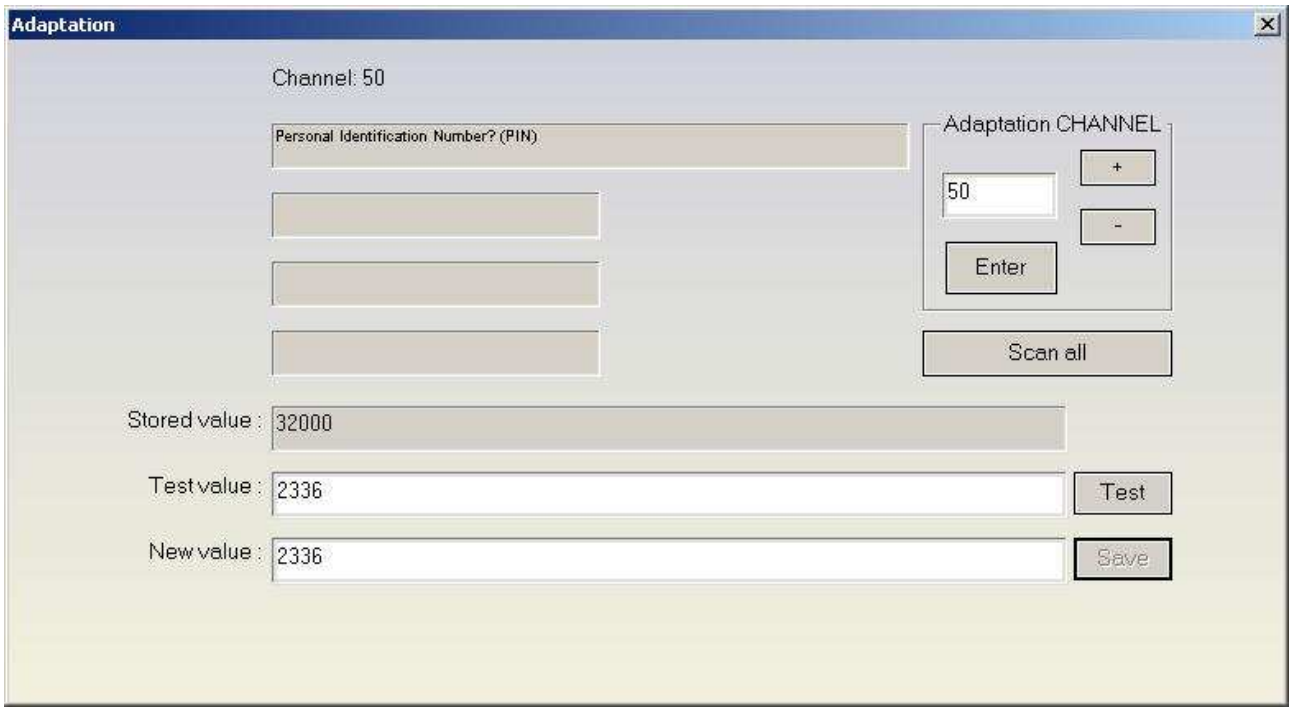
3.4.7.2User defined Security Access

You need to clarify the type of the security access and then by using the buttons “Request SEED”/”Send KEY” authorization can be performed.



3.4.8Adaptation

“Adaptation” will open for you a separate window where you can check adaptation values.
You need to enter the number of the channel where adaptation will be performed and then press the button “Test”. If the specified value is accepted by the unit – press the button “Save”.



The button “Scan all” will generate a file with all channels and adapted values.

Some important channels used for adaptation:

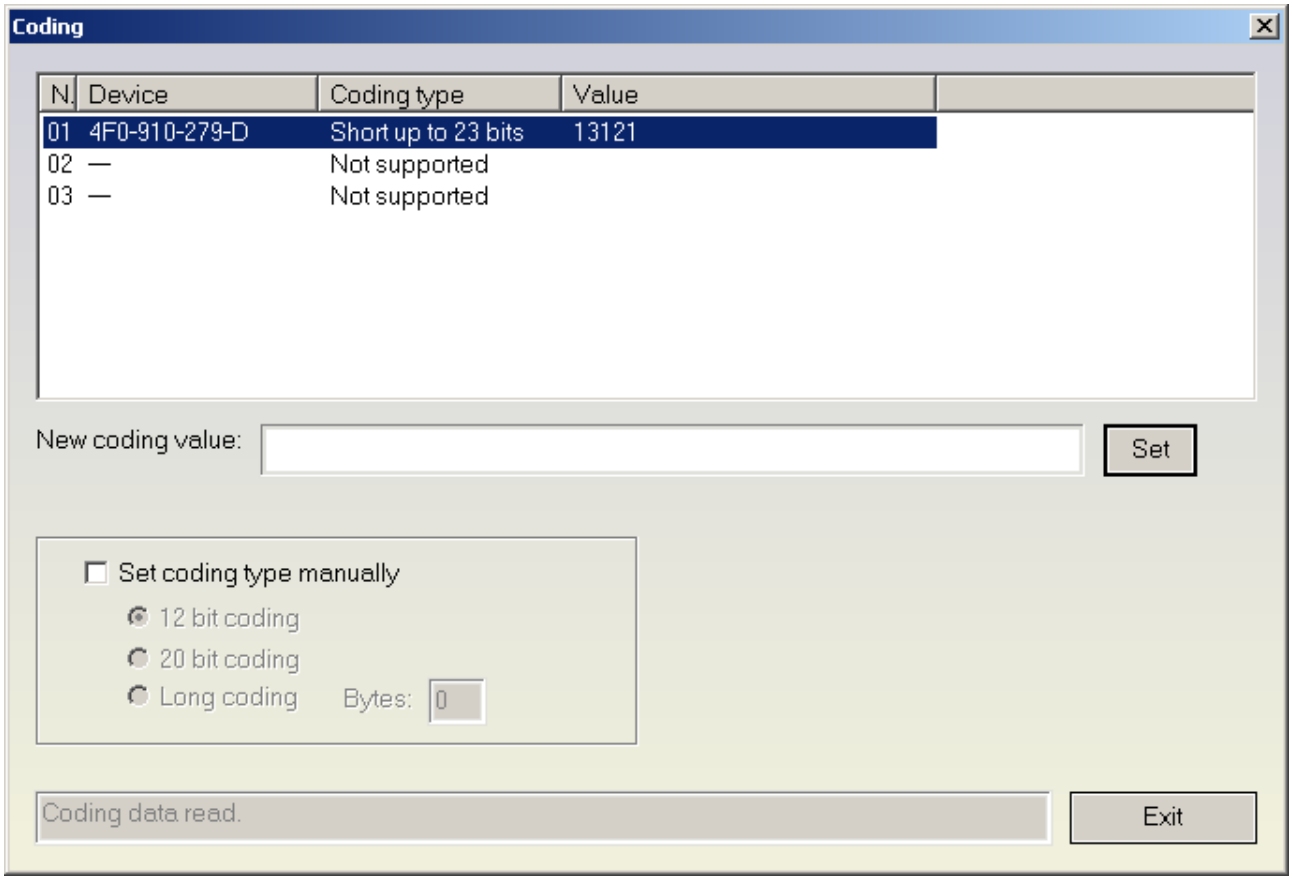
-Channel 50 is used for adaptation of new parts. Usually to get access to this channel you should make a security access with the Login of the device to which you’re connected and which you will adapt to the car. After you gain access to the channel 50 you should put the Login (PIN) of the car, to which you adapt the new part.

-Channel 21 – If the Immobilizer is by K-Line, then on channel 21 the adaptation of the keys is made. To gain access to it, it is necessary that security access with the immobilizer is made

-Channel 1 – If the Immobilizer is by CAN, then on channel 1 the adaptation of the keys is made. To gain access to it, it is necessary that security access with the immobilizer is made

3.4.9Coding of the unit

“Coding” will open for you a separate window where you can change the coding value of the master and all slave units. In the example below only the master unit supports coding. Slave units 1 and 2 are without coding.



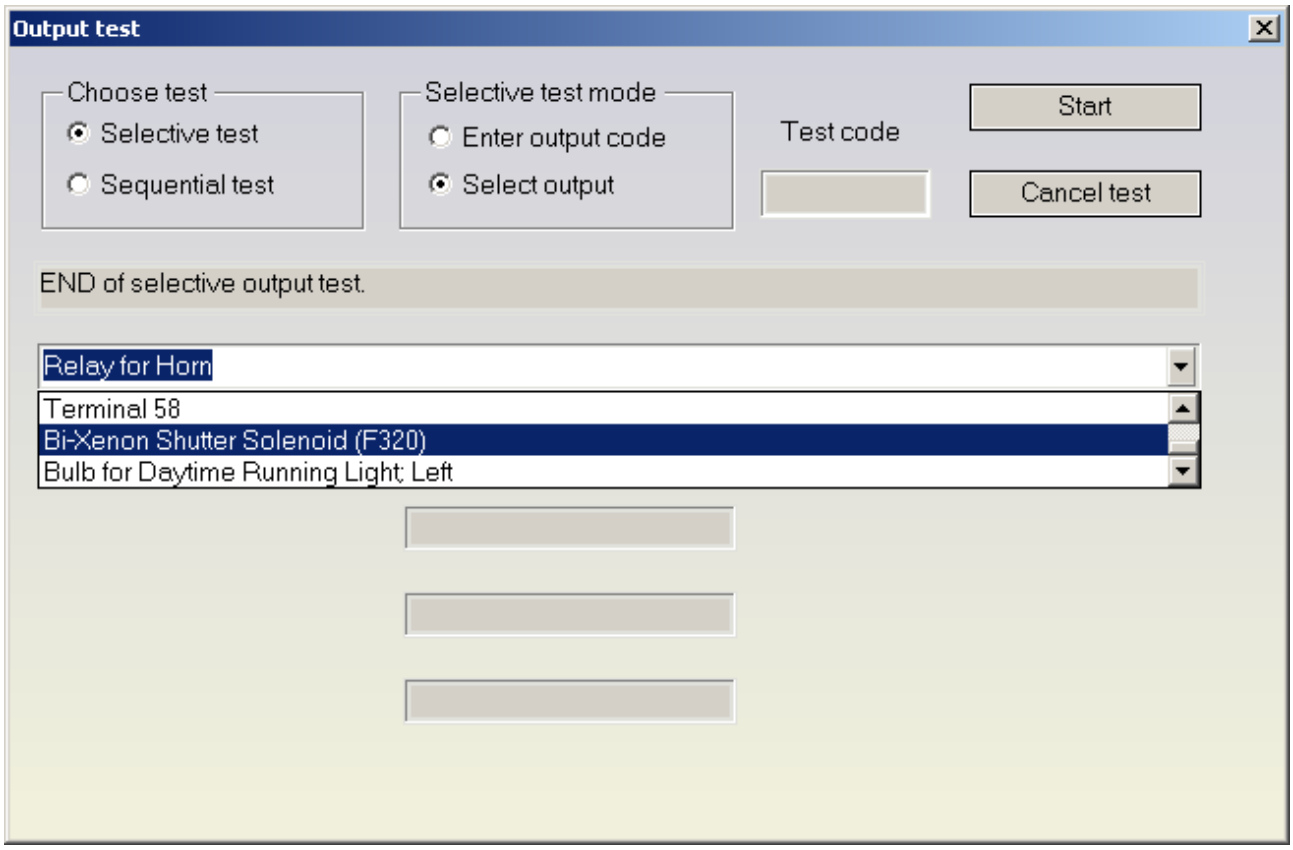
3.4.10Basic settings

“Basic settings” will expect from you to enter a number of the group and to press the button “ON” or “OFF”.

3.4.11Actuator test

Available are two types of tests: “Selective” and “Sequential”.

In the selective test you have the possibility to enter a test code manually or to select it from a list box. When a test is selected, you just need to press “Start”.

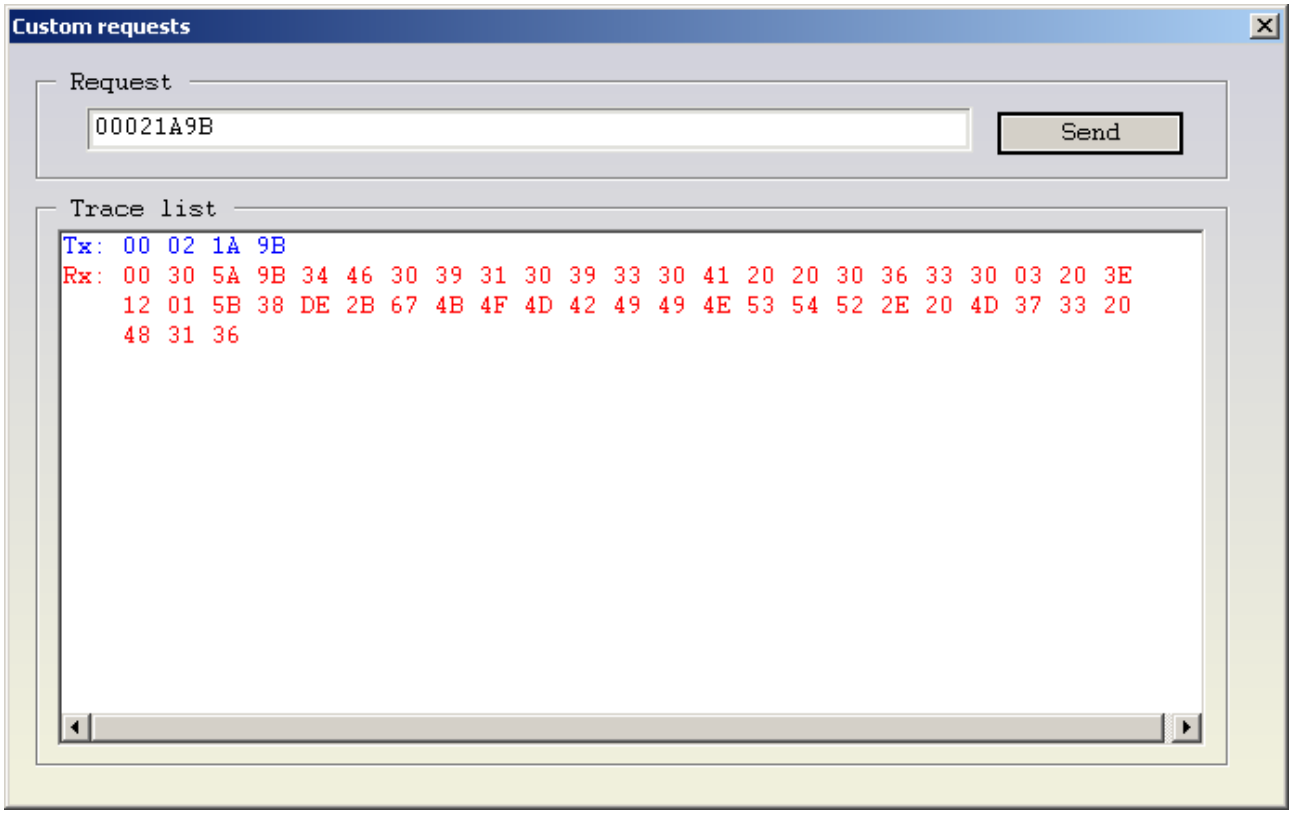


3.4.12Reset of the unit

“Reset” will request from the unit a SW reset. Not all electronic control units support this service. Please note, that it is not available in all diagnostic sessions.

3.4.13Custom requests

Using this function the user can send manually diagnostic requests to the corresponding unit. The example below shows a request for identification of an Instrument Cluster ECU.



3.4.14Program VIN

“Program VIN” requests the stored in the device VIN and tries to change it. Not all electronic control units support this service. Please note, that it is not available in all diagnostic sessions. Urgent point for this diagnostic service is that most of electronic control units updating its internal memory when ignition is turned off and current diagnostic session is closed. Example are engine control units BOSCH EDC16.

3.4.15Custom download/upload

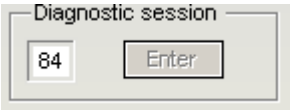
“Custom download/upload” allows direct reading from the address map of the device. This option will be available only if you have some updates in your configuration like e.g. “Reading/writing the flash counters”.
Take into account that in most cases a security authorization is required before you try to read/write into the address map.

3.4.16Component security

This special function allows managing of **brand new** units (and immobilizer units) where is allowed programming of PIN, SKC, BGW, MAC. Functions are under CAN-TP2.0.

3.4.17 Active diagnostic session

Default diagnostic session established after connection to the unit is “89”. User can request entering in a different diagnostic session where is allowed performing of diagnostic activities unavailable in standard session “89”.
Take into account that in most cases different diagnostic sessions require security authorization.



3.5Special Functions

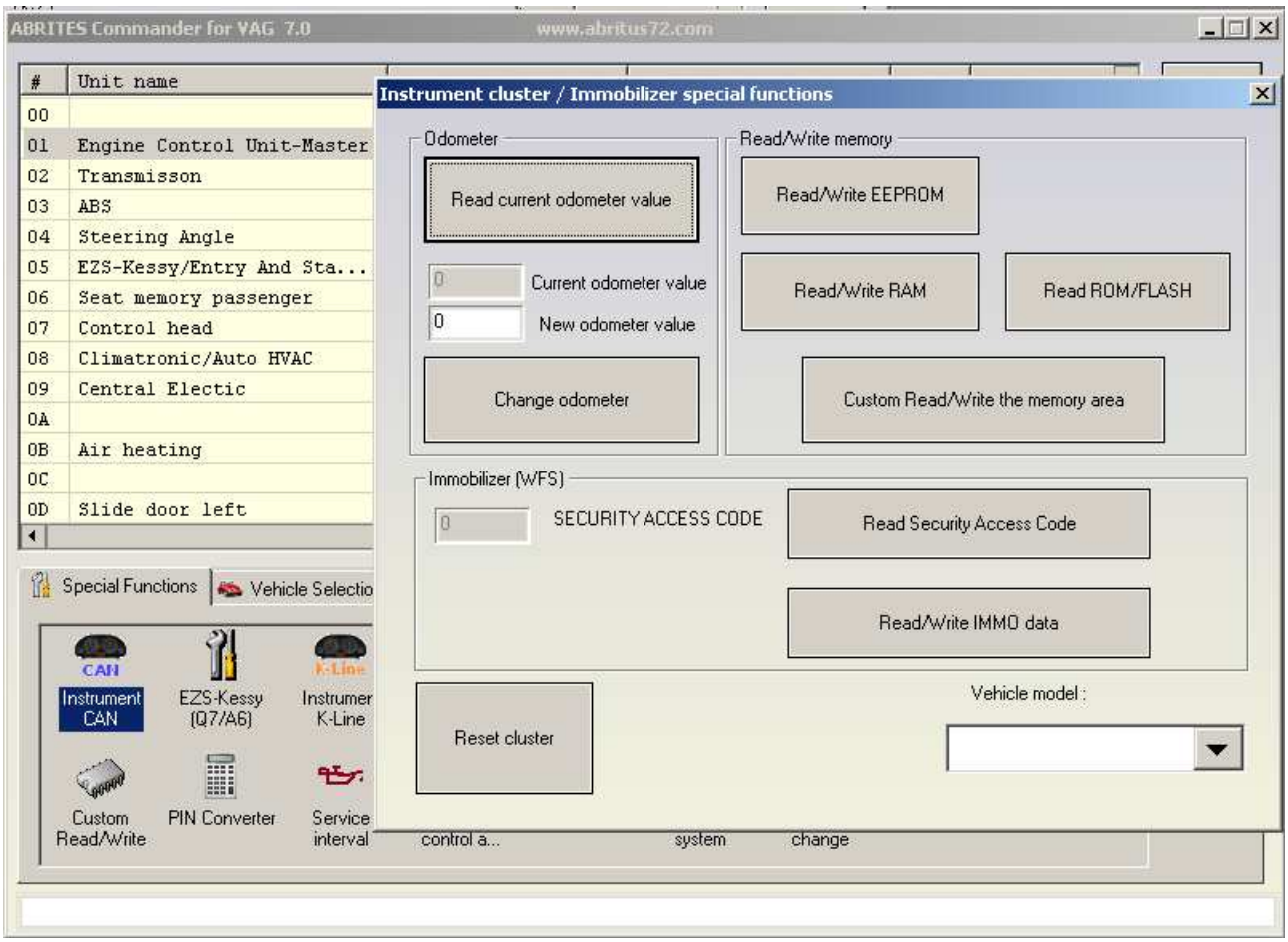
Special functions are some specific for electronic control units application, which will allow you change of odometer, reading security access codes, read/program EEPROM / flash content and so on.
Special functions are available from the main dialog of the application.

The appropriate special function is opened by selecting it in the list box and double-clicking on it, or by pressing the “Open” button.

NOTE: For the purposes of the some special functions (basically for the key-learning) there are buttons for auto detection of the PIN and component security. Basically this will try to read these data from the engine control unit, but it will try also first to read them from the instrument cluster if the instrument cluster supplier is VDO. Please pay attention that for VDO version after end of 2006 it might be required that the part of the instrument cluster is re-flashed. This is also required for functions for changing the mileage, reading/writing the odometer. As mentioned in the license agreement, use these operations on your own risk.

3.5.1Special functions with “instrument CAN”

When this function is opened, the “ABRITES VAG Commander” tries to establish diagnostic session with the Instrument / cluster using KWP2000 over TP2.0.



Available functions are:

- Reading current odometer value
- Change of odometer
- Read/Program memory of instrument cluster immobilizer
- Reading security access code of the **IMMOBILIZER**
- Read/Write immobilizer related data

Please, take into account that provided security access code from this application is IMMOBILIZER related and it will not be accepted from the instrument cluster!

This application can be used with the following models:
VW Golf5, VW Caddy, VW Touaran, VW EOS, VW Individual, Skoda Octavia II, Skoda Scout, Seat Leon, Seat Altea, Seat Toledo, Audi A3, Audi A6, Audi A8, Audi Q7, Audi Allroad.

With Audi A6, Audi A8, Audi Q7, Audi Allroad the function for reading current odometer value is not available. You need directly to enter new value and to press button change odometer. After a minute you will be asked for the currently displayed value and the odometer will be changed.

ATTENTION:

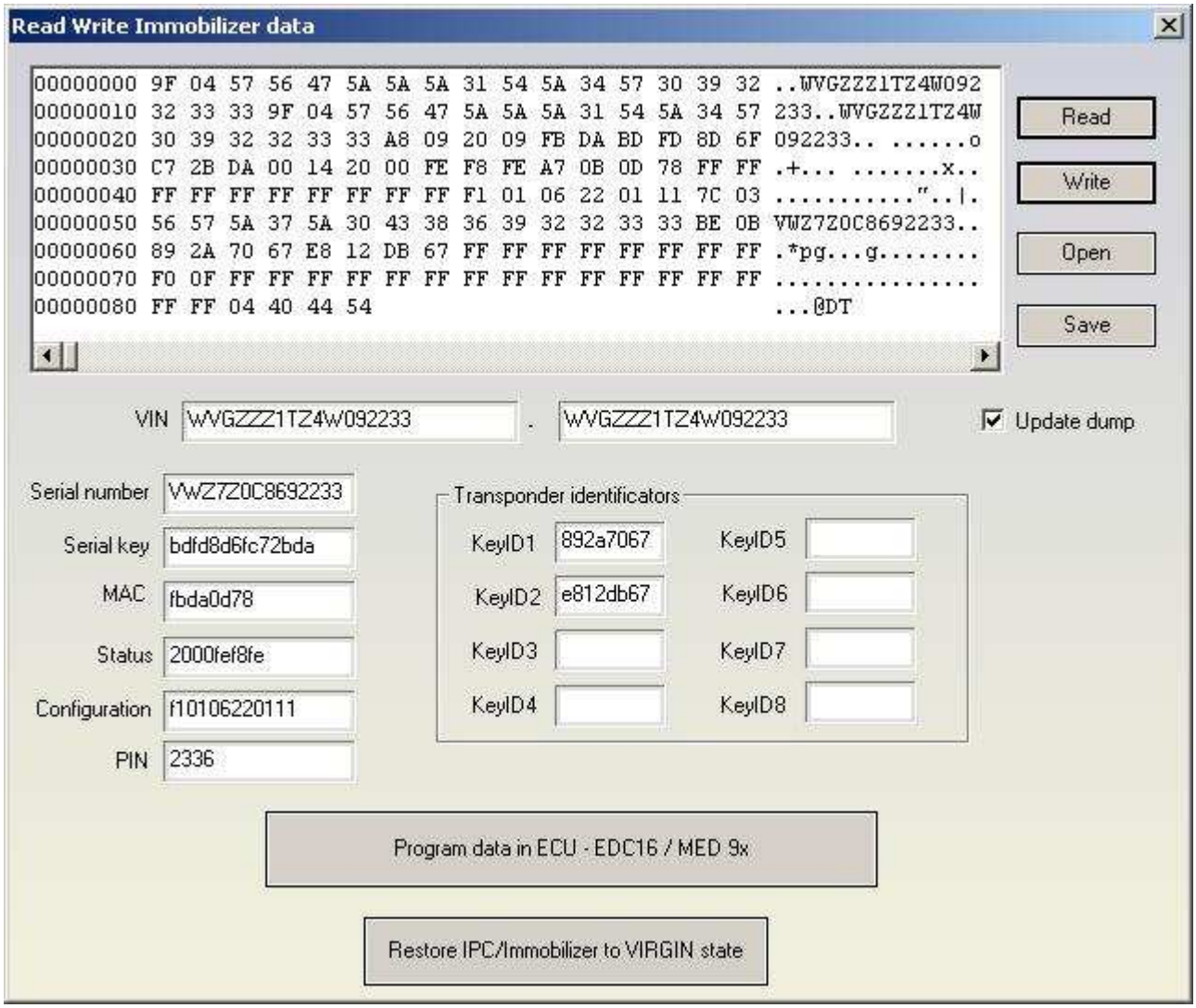
Please take care that some instrument clusters from Audi A3 and Audi A8 are with

blocked access to these special functions. This can be recognized if after reading of current odometer value is displayed unreal value. To restore instrument cluster to normal behavior need to be removed for one minute fuse of instrument cluster (for example on Audi A8 can be used fuse number 5). Reason for blocking of security access is usage of bad diagnostic tools in the past.

ATTENTION:

“ABRITES VAG Commander” is designed to calculate odometer values in “KM” units. Please, take this into account especially when using dump tool or when VAG Commander asks you about displayed value of instrument cluster (Audi Q7, Audi A6, Audi Allroad).

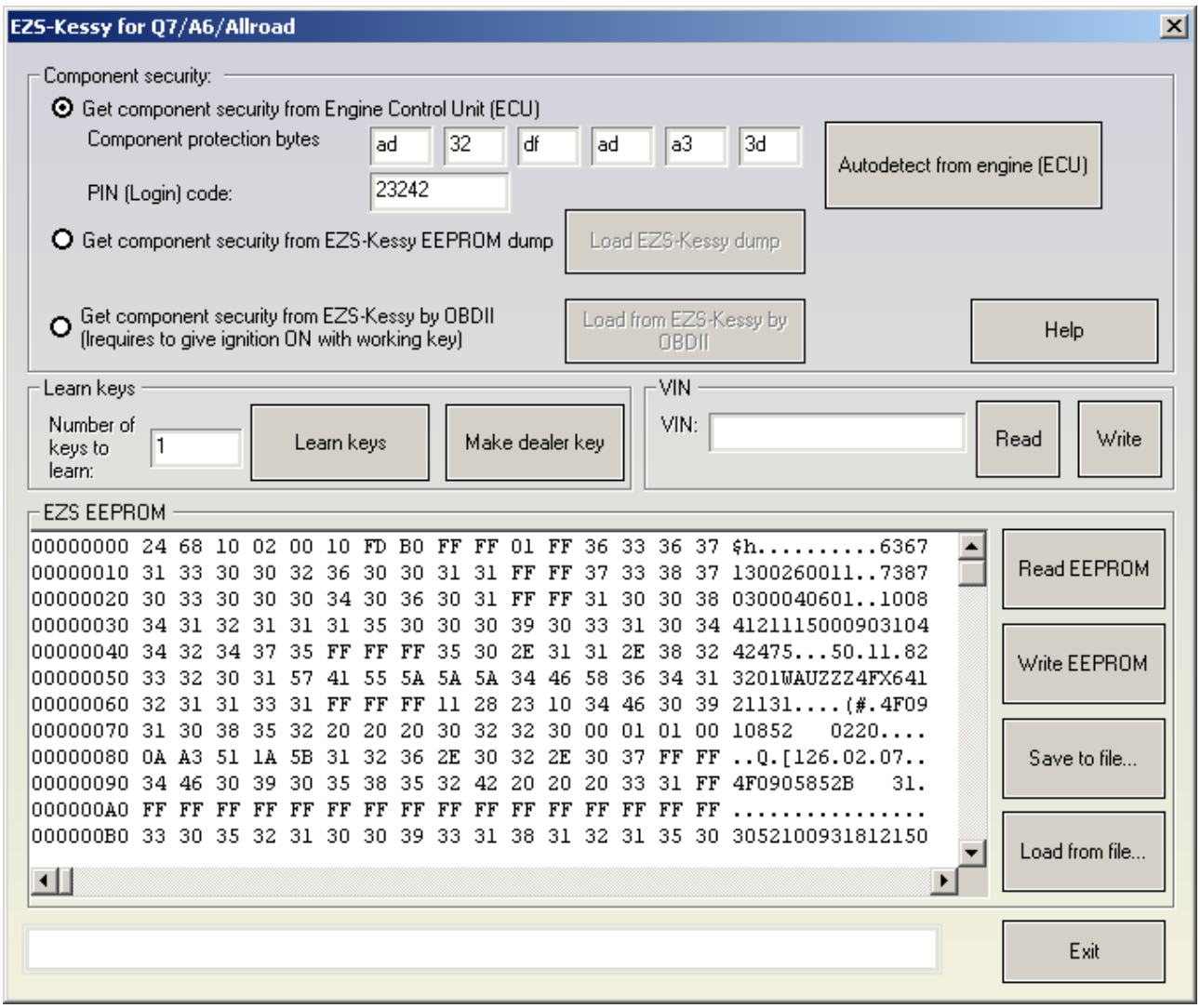
For some of the vehicles you can read and program immobilizer related data inside of immobilizer and engine control unit. This can be done by pressing the button “Read/Write Immo data”.
The following screen will be displayed:


Read Write Immobilizer data
00000000 9F 04 57 56 47 5A 5A 5A 31 54 5A 34 57 30 39 32 ..WVGZZZ1TZ4W092
00000010 32 33 33 9F 04 57 56 47 5A 5A 5A 31 54 5A 34 57 233..WVGZZZ1TZ4W
00000020 30 39 32 32 33 33 A8 09 20 09 FB DA BD FD 8D 6F 092233.. ......o
00000030 C7 2B DA 00 14 20 00 FE F8 FE A7 0B 0D 78 FF FF .+... ....x..
00000040 FF FF FF FF FF FF FF FF F1 01 06 22 01 11 7C 03 ...."..|.
00000050 56 57 5A 37 5A 30 43 38 36 39 32 32 33 33 BE 0B VWZ7Z0C8692233..
00000060 89 2A 70 67 E8 12 DB 67 FF FF FF FF FF FF FF FF .*pg...g........
00000070 F0 0F FF FF FF FF FF FF FF FF FF FF FF FF FF FF ....
00000080 FF FF 04 40 44 54 ...@DT
Read
Write
Open
Save
VIN
WVGZZZ1TZ4W092233
WVGZZZ1TZ4W092233
Update dump
Serial number
VWZ7Z0C8692233
Serial key
bdfd8d6fc72bda
MAC
fbda0d78
Status
2000fef8fe
Configuration
f10106220111
PIN
2336
Transponder identificators
KeyID1
892a7067
KeyID2
e812db67
KeyID3
KeyID4
KeyID5
KeyID6
KeyID7
KeyID8
Program data in ECU - EDC16 / MED 9x
Restore IPC/Immobilizer to VIRGIN state

Pressing the button “Read” will read immobilizer related data. Pressing the button “Write” will program data from the HEX screen if the “Update dump” checkbox is NOT selected, or from parsed data area if the above checkbox is selected.
Same data can be programmed in the EEPROM of the engine control unit.
From this dialog also is available function to reset immobilizer in virgin (delivery) condition where is allowed adaptation of this immobilizer to engine control unit.

3.5.2Special functions with “EZS Kessy CAN”

When this function is opened, the “ABRITES VAG Commander” tries to establish a diagnostic session with the “EZS-Kessy / Entry And Start Authorization” using KWP2000 over TP2.0.



This special function is dedicated for Q7/A6/Allroad models and the user has the following possibilities:

–Learn a key. Learning a key requires in most cases a preprogrammed (using VIN) key, which normally should be purchased from the VW/Audi dealer. Only models with EZS-Kessy with SW version till V2.0.2 it is possible to learn an empty (clear) key. For models with EZS-Kessy over this SW version it is required to have a dealer key purchased from the dealer, or create with our programmer.

–Read the EZS-Kessy EEPROM (2KB);

–Write the EZS-Kessy EEPROM (2KB) but without an area of 96 bytes with the PIN, component security and ECU synchronization;

–Change the VIN inside the EZS-Kessy EEPROM;

–Program a blank key so it becomes like a dealer key.

IMPORTANT: To make any activity with the EZS-Kessy you need one of the following:

–to know the login (PIN) of the car and the first 6 bytes of the component security bytes. The component security is normally 7 bytes, but the 7th byte is not required. The login and the component security bytes can be read normally from the ECU. This is true for all cars with EDC16x/MED9x/ME7x ECUs. Vehicles with other ECU (e.g. EDC17x or MED17x are not supported)! The login and the component security bytes can be read manually from the ECU from the customer using the "Engine control unit" special function, or decoded from

EEPROM dump (which is read with programmer). It is also possible that the VAG Commander reads the required information automatically when you press the "Autodetect" button. In this case the VAG Commander connects to the ECU and reads the login and CS automatically and then fill the required fields.
–Cars equipped with EDC17/MED17 is not possible to read the ECU and to get the component security from there. In this case if the car has working key, you can read the CS and PIN from the EZS-Kessy using the "Get component security from EZS-Kessy by OBDII" function. If the car doesn't have any working key, you need to open the EZS-Kessy and to read its EEPROM with a programmer. Then you've to select the "Get component security from EZS-Kessy" and to load the EZS-Kessy dump. After that you can learn/make a dealer key also from such cars
.

IMPORTANT: If the car doesn't have any existing working key, it is not possible to give ignition ON in order to get communication with the ECU. So to be able to communicate with the ECU you've to make short with the fuses as described in the Appendix. After the login and the component security bytes are read, you can restore the fuses.

IMPORTANT: If the car doesn't have a working key, communication with the EZS-Kessy is possible only if you press the brake pedal. So if don't have a working key, before learning keys, making dealer keys, read/write VIN, read/write EEPROM you've to make "Ignition OFF", then "Ignition ON" and press and hold the brake. After that you can continue with the function from learning a key, making a dealer key, reading/writing EEPROM, or reading/writing VIN.

NOTE: To make any activity with the EZS-Kessy you need to put the login and the component security bytes, or to load the EZS-Kessy EEPROM dump, or to get the component security and CS by OBDII from EZS-Kessy. If this information is not made, any attempt to make any activity with the EZS-Kessy will result an error.

3.5.2.1Learning key with EZS-Kessy

To learn a key for the EZS-Kessy. You need to put the login and component security bytes (as described above) and to specify the number of keys which should be learned. Then pressing the "Learn" button will learn the key.

IMPORTANT: For EZS-Kessy modules with SW version above 2.0.2 it is required that you've a dealer key. This key can be obtained from the VW/Audi dealer or can be made if you have the respective Key programmer.

3.5.2.2Reading/changing VIN

To read/write the EZS-Kessy VIN it is required to put the login and component security bytes (as described above). Then using the read/write buttons you can change the VIN.

3.5.2.3Reading/Writing EEPROM

To read/write the EZS-Kessy EEPROM it is required to put the login and component security bytes (as described above). Then using the “Read EEPROM” button you can read the whole EEPROM. This EEPROM is required to prepare a dealer key.
Pressing the “Write EEPROM” button respectively will write the EEPROM, but the area from address 0x100 to 0x15F (i.e. 96 bytes) is not possible to write.
The write procedure takes about 8-9minutes, while the reading of the EEPROM is completed for less than a minute.

3.5.2.4Program a blank key so it becomes like a dealer key

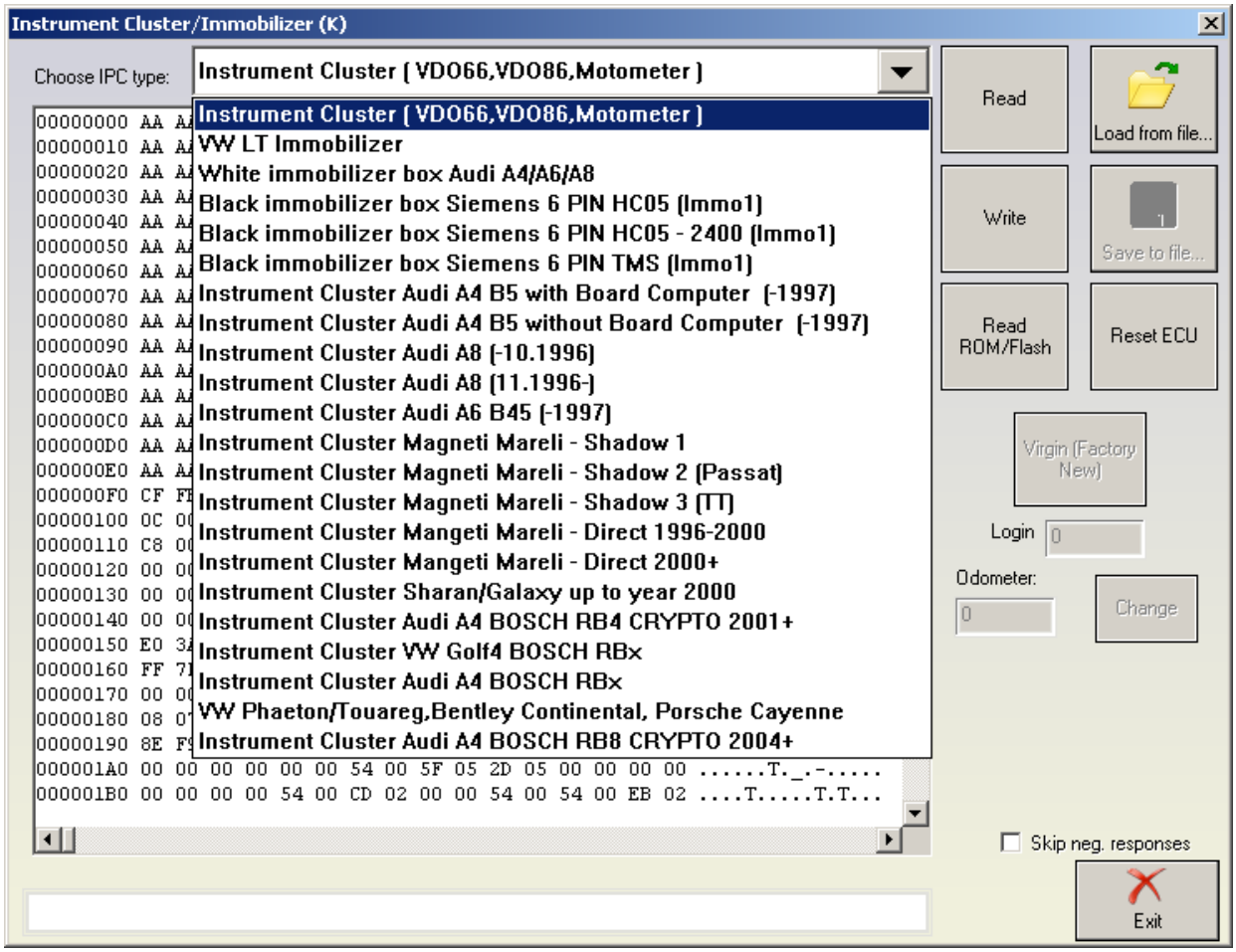
You need to put the login and the component security bytes (as described above) and then to press the “Make dealer key” button. In this time the blank key should be inside the Key programmer and the ABRITES Commander should be connected to the car. After several seconds the dealer key should be ready and can be learned with the learn button.

3.5.3Special functions with “instrument K-Line”

When this function is opened, the following dialog appears:

From this dialog you need to choose the type of your instrument cluster / immobilizer and then you can read/write EEPROM (change odometer, read PIN code and so on). Please note, that only connection via K-Line will be made (KWP1281 or KWP2000) and this doesn’t depend on the configuration options.

ATTENTION: All read EEPROM dumps are stored in the “Dumps” sub-folder of the ABRITES VAG Commander so it is possible to restore the EEPROM in case of unwanted changes.


Instrument Cluster/Immobilizer (K)
Choose IPC type:
Instrument Cluster (VDO66,VDO86,Motometer)
Instrument Cluster (VDO66,VDO86,Motometer)
VW LT Immobilizer
White immobilizer box Audi A4/A6/A8
Black immobilizer box Siemens 6 PIN HC05 (Immo1)
Black immobilizer box Siemens 6 PIN HC05 - 2400 (Immo1)
Black immobilizer box Siemens 6 PIN TMS (Immo1)
Instrument Cluster Audi A4 B5 with Board Computer (-1997)
Instrument Cluster Audi A4 B5 without Board Computer (-1997)
Instrument Cluster Audi A8 (-10.1996)
Instrument Cluster Audi A8 (11.1996-)
Instrument Cluster Audi A6 B45 (-1997)
Instrument Cluster Magneti Mareli - Shadow 1
Instrument Cluster Magneti Mareli - Shadow 2 (Passat)
Instrument Cluster Magneti Mareli - Shadow 3 (TT)
Instrument Cluster Mangeti Mareli - Direct 1996-2000
Instrument Cluster Mangeti Mareli - Direct 2000+
Instrument Cluster Sharan/Galaxy up to year 2000
Instrument Cluster Audi A4 BOSCH RB4 CRYPTO 2001+
Instrument Cluster VW Golf4 BOSCH RBx
Instrument Cluster Audi A4 BOSCH RBx
VW Phaeton/Touareg,Bentley Continental, Porsche Cayenne
Instrument Cluster Audi A4 BOSCH RB8 CRYPTO 2004+
000001A0 00 00 00 00 00 00 54 00 5F 05 2D 05 00 00 00 00 ......T._.-.....
000001B0 00 00 00 00 54 00 CD 02 00 00 54 00 54 00 EB 02 ....T.....T.T...
Read
Load from file...
Write
Save to file...
Read ROM/Flash
Reset ECU
Virgin (Factory New)
Login
0
Odometer:
0
Change
Skip neg. responses
Exit

For the most of instrument clusters is implemented automatic parsing of data from the EEPROM (odometer/immobilizer).

For instrument clusters from Magneti Marelli please refer Appendix A.

If connection to Momometer instrument is not succeeded, please send the file “motometers.txt” to “moto@abritus72.com” and this instrument will be added to the database till three business days. Latest database for Motometer instruments is available on www.abritus72.com/mmdata.bin

NOTE: Sometimes if you try to access the instrument cluster by selecting the wrong type, the cluster may block and reject any future diagnostic requests until it is reset from the power supply by removing the fuse or disconnecting from battery. For example this always happens for the Bosch clusters, which will be blocked if accessed as “Instrument cluster (VDO66, VDO86, Motometer)” type.

NOTE: Please be very careful when selecting “Instrument Cluster Audi A4 BOSCH RB4 CRYPTO 2001+” and “Instrument Cluster Audi A4 BOSCH RBx” instruments. You will be able to read the EEPROM of the instrument no matter which of both types is selected, but if you’ve chosen the wrong type and you try to make some changes, you can damage it. You can recognize whether the right type is selected by doing the following:

1.Choose “Instrument Cluster Audi A4 BOSCH RBx”

2.Read the EEPROM

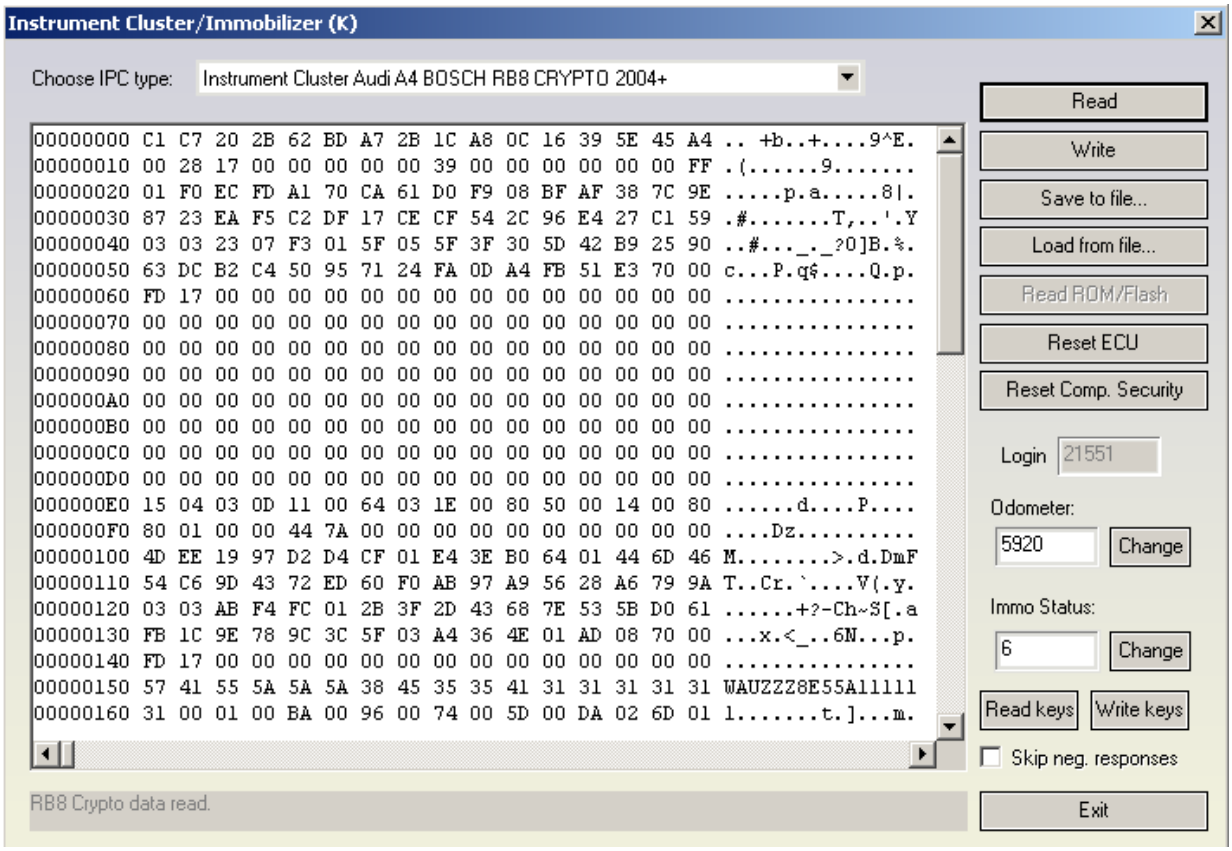
3.If the displayed odometer corresponds to the real value, and if the displayed login is accepted, then the type is “Instrument Cluster Audi A4 BOSCH RBx”, otherwise it is “Instrument Cluster Audi A4 BOSCH RB4 CRYPTO 2001+”

Take into account that most instrument clusters need a “Reset” after change of the odometer. You can try to send a diagnostic request for reset of the cluster (button “Reset ECU”). If this service is not supported you need to remove the fuse of the instrument cluster and to connect it again.

NOTE: When reading the RB8 EEPROM the device is put into service mode and “L0 x-y” is displayed. If by any reason the instrument leaves in this situation (e.g. if your laptop goes off due flat battery, or you disconnect the interface from the car, or the car battery is flat), you need to read the RB8 instrument EEPROM, and change the immobilizer status to 6.

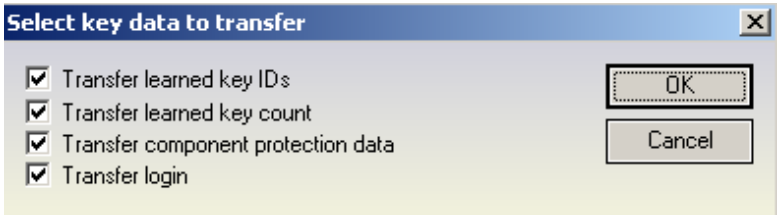
3.5.3.1Transferring keys from one RB8 instrument to another

Starting from V5.2 of the ABRITES VAG Commander it is possible to transfer the keys from one instrument to another. After reading the RB8 EEPROM there are two additional buttons: “Read keys” and “Write keys”.



In order to transfer the keys you have first to read the EEPROM of the source instrument, and when pressing “Read keys” they are saved into file. Then you have to go on the destination instrument, read its EEPROM and pressing the “Write keys” button – then you will prompted for the file where the source instrument keys were read. After selecting the key file you will be

asked what information to transfer:



–“Transfer learned keys Ids” - this are the key fixed code identifiers. If they are not transferred you have to perform key learning on the new dash

–“Transfer learned key count” - transfer the key count

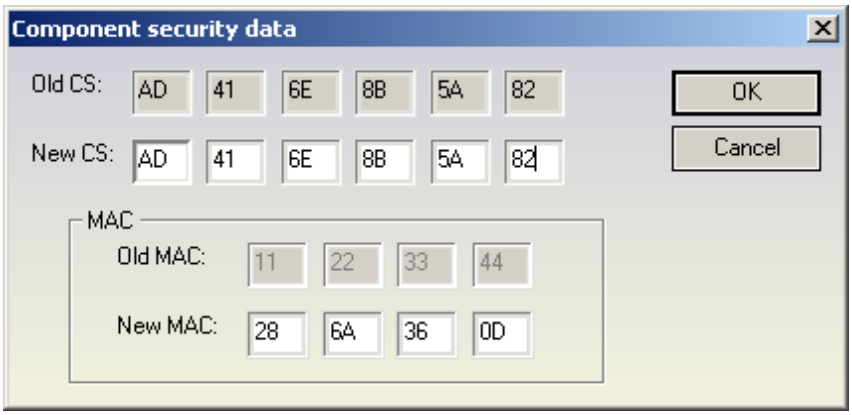
–“Transfer component protection data” - this transfer the key variable code. Without this the key is not recognized and cannot be learned. Please pay attention that in order to start the engine you've also to adjust these component protection data in the ECU too.

–“Transfer login” - transfers the car login.

NOTE: There are two types of RB8 Instruments – such with 7 bytes of component protection inside and such with 12 bytes of component protection. This procedure is valid only for instruments which are with 12 bytes component protection. Almost all RB8 Instrument clusters are from that type, these with 7 bytes of component protection are mainly represented on A4 benzine cars (RS4 Benzine is also with 12 bytes)

3.5.3.2Exchanging RB8 Instrument

If you want to put used RB8 instrument into a car, you've to synchronize the ECU and the RB8 instrument. For that reason you need to read the ECU component protection data and the ECU MAC. Then after reading the the RB8 instrument a button “Reset Comp. Security”. After pressing this button the following dialog will appear. Just put here the component security and MAC of the ECU.



NOTE: There are two types of RB8 Instruments – such with 7 bytes of component protection inside and such with 12 bytes of component protection. This procedure is valid only for instruments which are with 12 bytes component protection. Almost all RB8 Instrument clusters are from that type, these with 7 bytes of component protection are mainly represented on A4 benzine cars (RS4 Benzine is also with 12 bytes)

3.5.4Special functions with “Engine Control Unit”

Special functions with ECU can be:

-Read/Write of flash memory

-Read/Write the flash counters

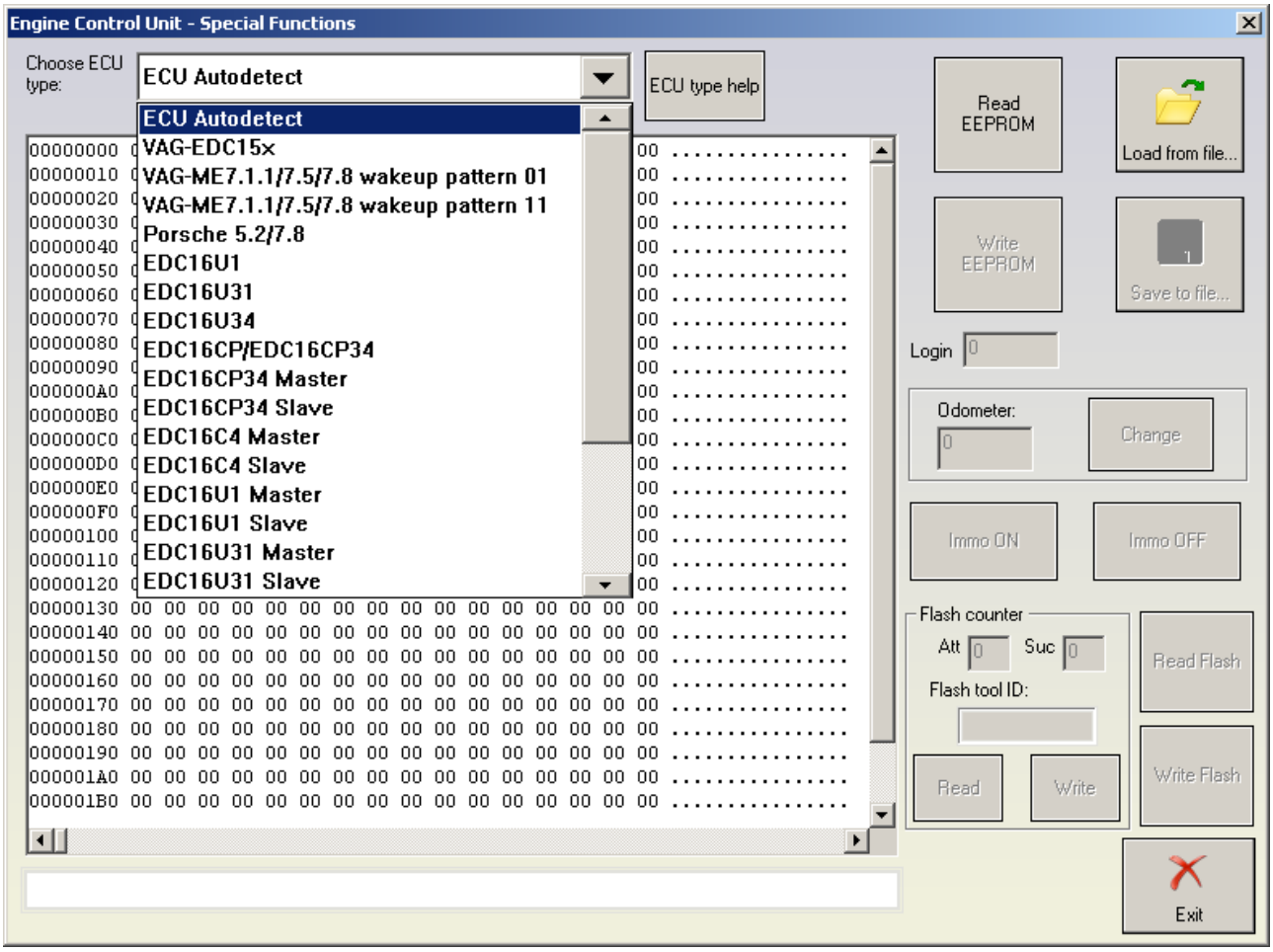
-Read/Write EEPROM

-Change odometer (EDC15)

-Extracting security code/PIN

-Immobilizer Enable/Disable (EDC15/ME7x)

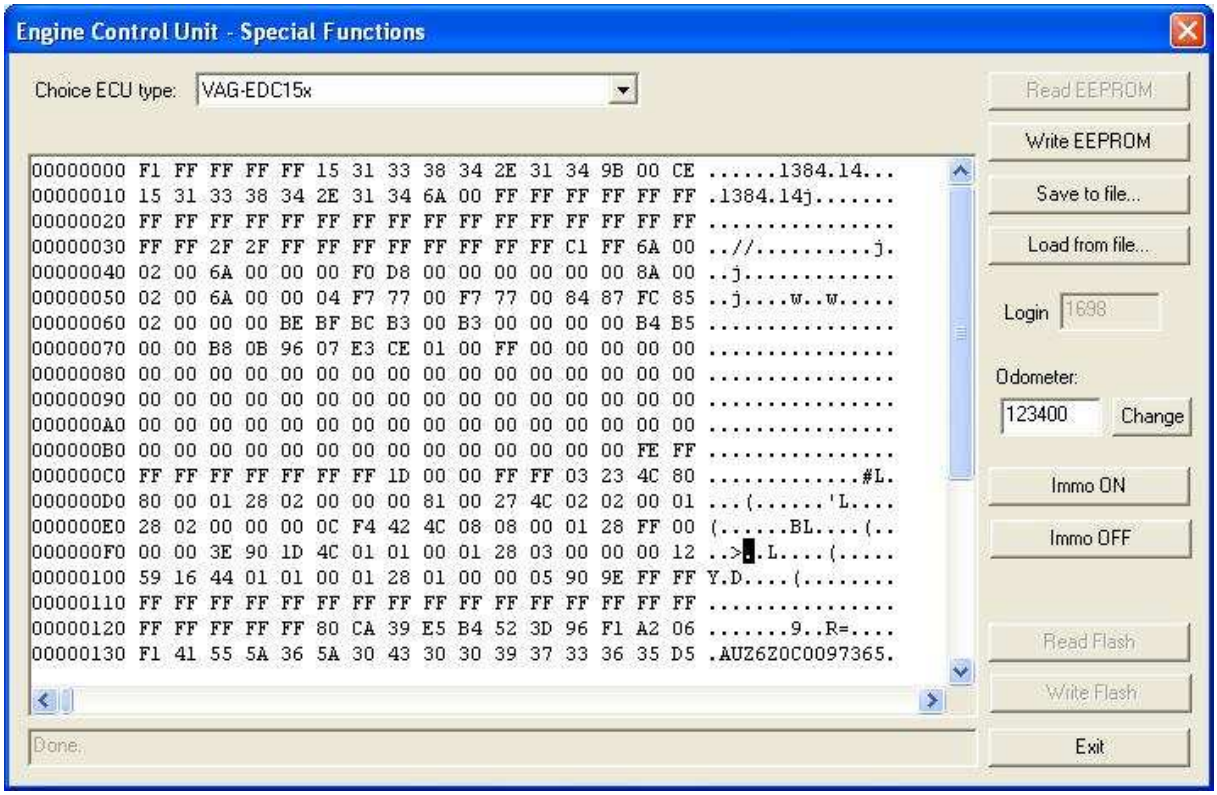
Functions become available after pressing the button “ECU” from special functions of main dialog:



IMPORTANT: You need to clarify the type of Engine Control Unit in the car before proceeding! To help you in this operation there is a button “ECU type help” which will ask you for the model and engine and will give you the possible models of ECUs. There is also a “Autodetect function” implemented – if you select the “ECU autodetect” then system will try automatically to find the ECU type. Please pay attention that this will be not always possible, especially for EDC17/MED17 ECUs.

You can choose ECU type – VAG- EDC15x, VAG – ME7.1.1/7.5/7.8, Porsche 5.2/7.8 BOSCH VAG-EDC15x, VAG-ME7.1.1, VAG-ME7.1, VAG-ME7.5, VAG-Cartronic ME7.8, EDC16U1, EDC16U3x/CP, etc. (Extracting security code, odometer correction, enable disable immobilizer and so on)

Example is : 1.9 TDI – EDC15

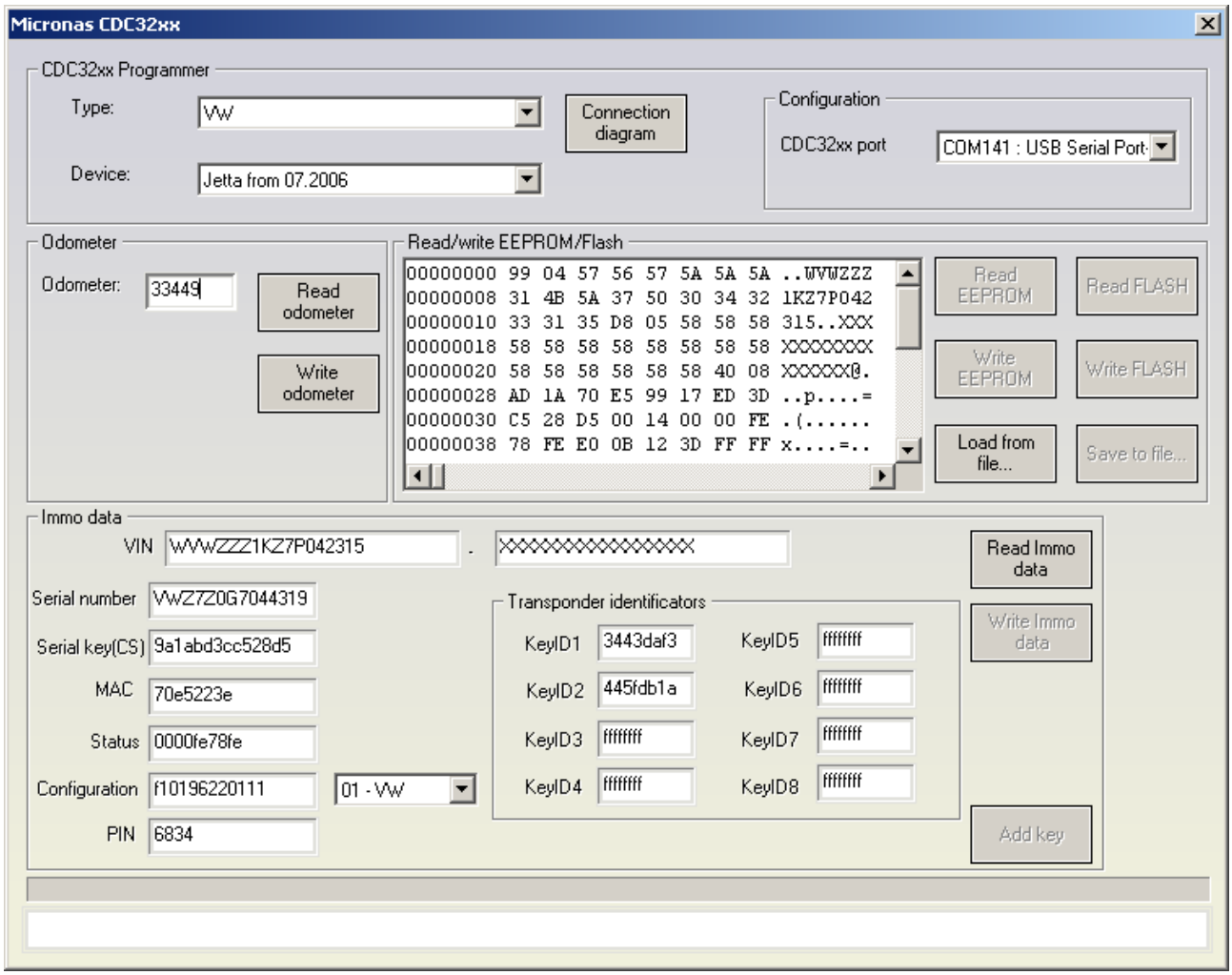


HINTS when reading/writing flash memories of ECUs (or changing flash counters):
1. In case of EDC15 the best advice is to remove fuse 11 and fuse 15 to prevent disturbing of communication from the instrument cluster.
At a certain point during reading/writing flash memory of the EDC15 ECU, you will see “Trying gateway options...” written on the status line at the bottom of the “Engine Control Unit” window. Make a quick Ignition OFF/ON at this point.
2. In case of ME7.x or ECUs from Porsche you can read the flash memory like reading of the EEPROM – the only difference is that you need to uncheck the checkbox for automatic detection of EEPROM and put the corresponding start address and length.
If you experience problems with reading ME7.x memory better remove fuse 11 and fuse 15 to prevent disturbing of communication from the instrument cluster and try again.
3. When flashing the device please always read and save first the original flash!
4. When using EDC16 please notice that the flash which was read is saved automatically in the “Flash” subfolder and can be used in case of any failure to restore the flash. ATTENTION: FILE IS CRYPTED!!! Don’t use it directly to write it! In case of failure during the flashing the device should enter into a boot-loader mode which will allow to flash the device (but not to read it). The flash can be then restored with the “Custom Read/Write” function.
5. Please, stop all screen savers/power saving options and unused application during the flashing! Please do not do anything else on your PC while flashing.
6. Please, take into account that the reading/writing of the flash will take a long time (especially when CAN connection is used) – as result the battery may become flat.

HINTS when reading/writing EEPROM memory of ECUs:
1. If you experience problems with reading ME7.x EEPROM better remove fuse 11 and fuse 15 to prevent disturbing of communication from the instrument cluster and try again.

3.5.5Special functions with “Micronas CDC32xx”

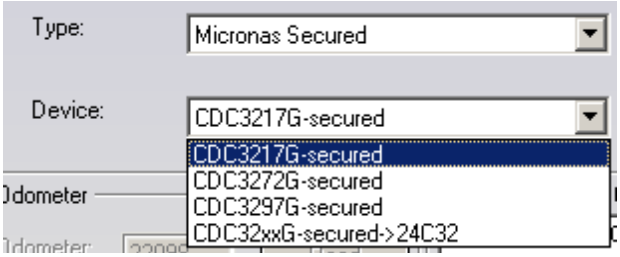
The “Micronas CDC32xx” special function is dedicated for the VDO instrument clusters with Micronas CDC32xx microcontroller. This is possible using the CDC32xx programmer.
After starting the function a following dialog will be brought to the user:



NOTE: Before starting any activity with the CDC32xx programmer it is important to set properly the communication port (COM port) used by the programmer. This is made from the “CDC32xx port” combo box. If the port is properly set after starting any activity the LEDs of the CDC32xx programmer will start to blink. If they're not blinking this is probably indication that you don't selected the port properly

From the “Type” and “Device” combo boxes the user has to select the car type, or the microcontroller type. For each selection there is a possibility to view the wiring/PIN-outs using the “Connection diagram” button.

If the user wants to read the whole Flash/EEPROM, he have to select “Micronas Secured” from the “Type” combo, and then the microcontroller sub-type from the “Device” combo.



If CDC3217G, CDC3272G or CDC3297G is selected, the user will be able to read/write the flash memory. If “CDC32xxG-secured->24C32” is selected, the user will be able to read/write the EEPROM memory.

If the user wants to change the odometer, read/write the immobilizer data, or to make a key, he have to select the car type and the model in the appropriate combo boxes.
Changing the odometer is made from the “Read odometer” and “Write odometer” buttons.
Reading/Writing the Immobilizer data is made from the buttons “Read Immo data” and “Write Immo data”. Please pay attention that the writing the invalid immobilizer data may causes the car to stop working. For that reason it is better always to make a backup of the data read.
If you want to make a key you need to read the immobilizer data first.
Then you should have a programmer connected, and to put the transponder inside. After that 1 key is added to the existing keys. This means that existing keys continue to work.

NOTE: It is possible to have 8 keys per car. If all position are full the key is not added but replace the 8th position.

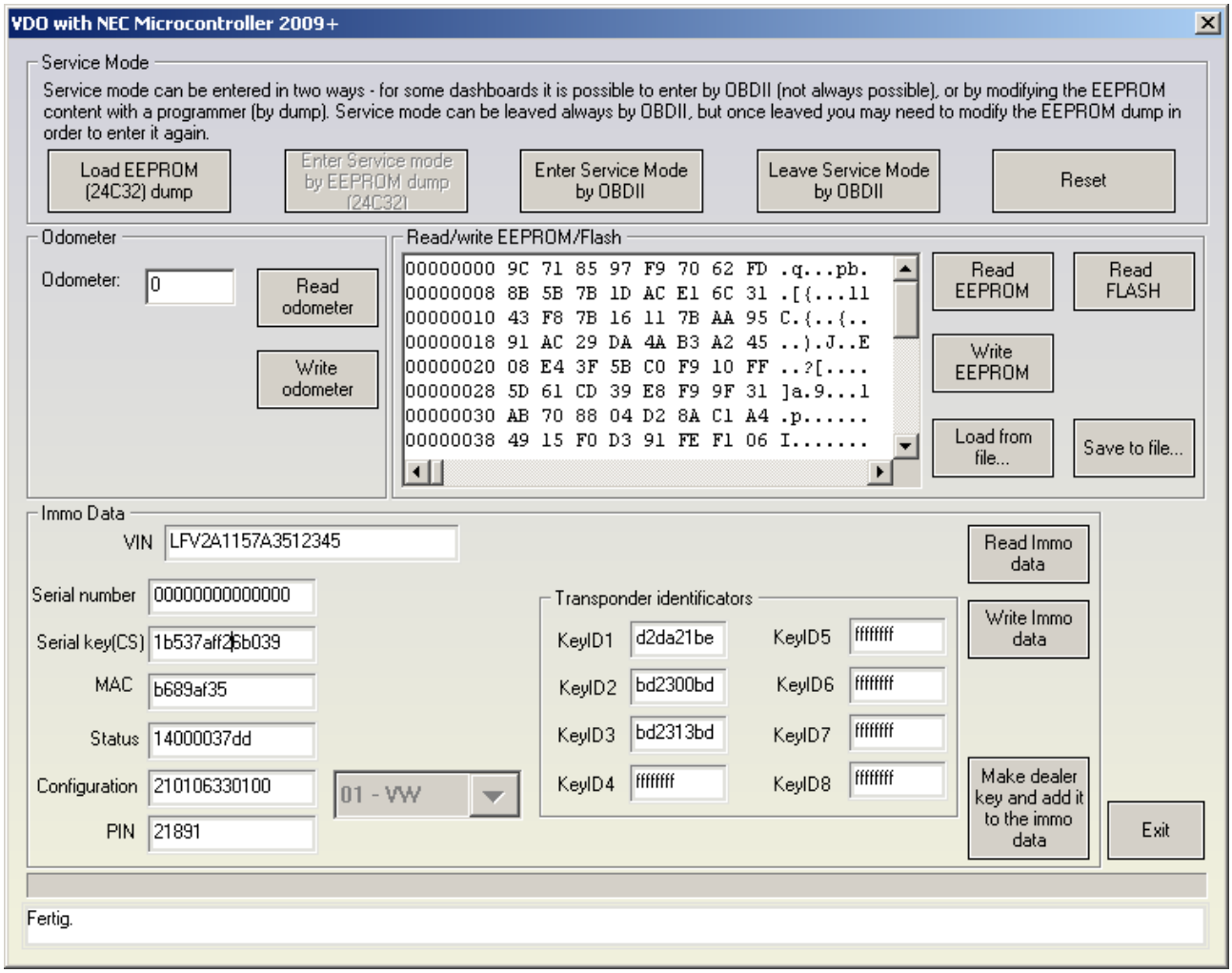
NOTE: Pressing the “Add key” button programs the transponder as a dealer key and puts the transponder ID into the immobilizer data. But the data are not written in the microcontroller yet, you've to press the “Write immo data” button to write the data. Or if you want since you've a dealer key at this moment, you can exit without writing data and later learn the transponder by diagnostic.

IMPORTANT: Sometimes the read/write procedure may fail. If you've a message that controller cannot be read/written you've to retry several times. If after 6-7 attempts it is not possible e.g. to read the odometer or to read the immobilizer data, this means that the wiring is not correct, or you selected wrong device type.

NOTE: Sometimes writing of the data may fail. In order not to lose the information all written data are backed up in the “Dumps” subfolder

3.5.6Special functions with “VDO NEC”

The “VDO NEC” special function is dedicated for the VDO instrument clusters with NEC microcontroller. Typically these are VW/Seat/Skoda/Audi cars produced after 2009 year.
After starting the function a following dialog will be brought to the user:


VDO with NEC Microcontroller 2009+
Service Mode
Service mode can be entered in two ways - for some dashboards it is possible to enter by OBDII (not always possible), or by modifying the EEPROM content with a programmer (by dump). Service mode can be leaved always by OBDII, but once leaved you may need to modify the EEPROM dump in order to enter it again.
Load EEPROM (24C32) dump
Enter Service mode by EEPROM dump (24C32)
Enter Service Mode by OBDII
Leave Service Mode by OBDII
Reset
Odometer
Odometer: 0
Read odometer
Write odometer
Read/write EEPROM/Flash
00000000 9C 71 85 97 F9 70 62 FD .q...pb.
00000008 8B 5B 7B 1D AC E1 6C 31 .[{...l1
00000010 43 F8 7B 16 11 7B AA 95 C.{..{..
00000018 91 AC 29 DA 4A B3 A2 45 ..).J..E
00000020 08 E4 3F 5B C0 F9 10 FF ..?[....
00000028 5D 61 CD 39 E8 F9 9F 31]a.9...1
00000030 AB 70 88 04 D2 8A C1 A4 .p......
00000038 49 15 F0 D3 91 FE F1 06 I.......
Read EEPROM
Read FLASH
Write EEPROM
Load from file...
Save to file...
Immo Data
VIN LFV2A1157A3512345
Serial number 00000000000000
Serial key(CS) 1b537aff26b039
MAC b689af35
Status 14000037dd
Configuration 210106330100
PIN 21891
01 - VW
Transponder identificators
KeyID1 d2da21be
KeyID2 bd2300bd
KeyID3 bd2313bd
KeyID4 ffffffff
KeyID5 ffffffff
KeyID6 ffffffff
KeyID7 ffffffff
KeyID8 ffffffff
Read Immo data
Write Immo data
Make dealer key and add it to the immo data
Exit
Fertig.

For these instruments it is possible to make mileage correction and keys. Also exchanging parts and adapting the identifications/configuration is also possible.
The mileage function requires a separate license, while making keys requires the dealer-key license.

To make any operation on these dashboards, it is required first to enter into service mode. Without entering into service mode nothing is possible. Entering into service mode is possible in two ways:
–read the EEPROM (24C32) with a programmer, then load it with the “Load EEPROM dump” button, modify it then with “Enter service mode by EEPROM dump”, and finally write back the resulting file with a programmer to the EEPROM
–If the car has a working key from the car, give ignition with it and then press “enter service mode by OBDII”.

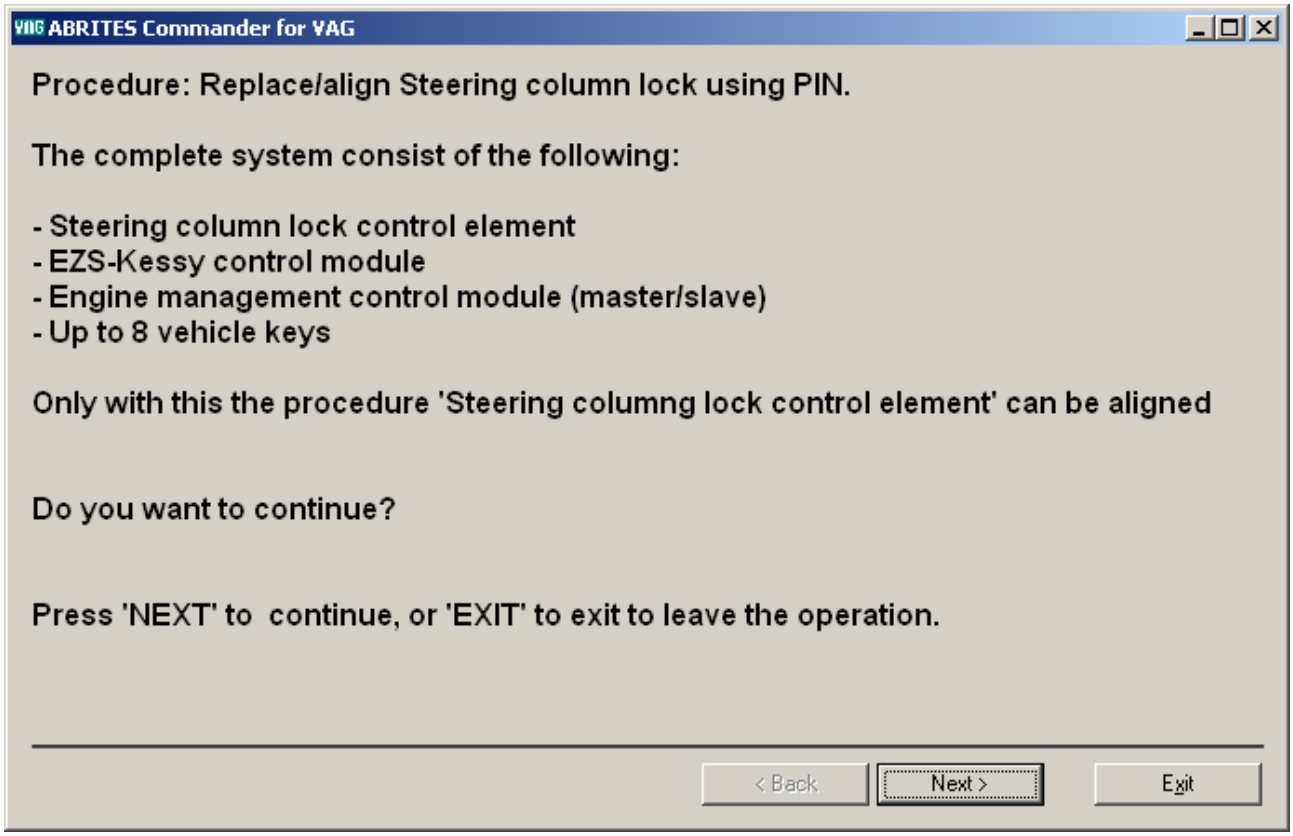
Service Mode is leaved when:
–if you entered the service mode using a programmer, then “Leave service mode” will leave it. If you want to enter again, you need to modify the EEPROM dump again. Pressing the “Reset” button will not leave the service mode
–if you entered the service mode by OBDII, both the buttons “Leave service mode” and “Reset” will leave the service.
Once the service mode is entered, you can:

–Read / Write the whole EEPROM
–Read the whole Flash
–Read / Write the mileage
–Read / Write the immobilizer data
–Make key for the car.

NOTE: Pressing the “Make dealer key and add it to immo data” writes the required data into the transponder and modifies the displayed immobilizer data, but DON'T write the immobilizer data into the dashboards. You need to do this explicitly with the “Write Immo data” button.

3.5.7Special function “Steering lock adaptation”

The window “Steering lock adaptation” can be used for adaptation of steering lock control module to the VW Touareg/VWPhaeton/Porsche Cayenne/Bentley Continental/Audi A8. This adaptation can be by CAN TP2.0 or K-KWP2000.
To perform this adaptation you need to know the security access code of the immobilizer and working (aligned) key from the car.


ABRITES Commander for VAG
Procedure: Replace/align Steering column lock using PIN.
The complete system consist of the following:
- Steering column lock control element
- EZS-Kessy control module
- Engine management control module (master/slave)
- Up to 8 vehicle keys
Only with this the procedure 'Steering columng lock control element' can be aligned
Do you want to continue?
Press 'NEXT' to continue, or 'EXIT' to exit to leave the operation.
< Back
Next >
Exit

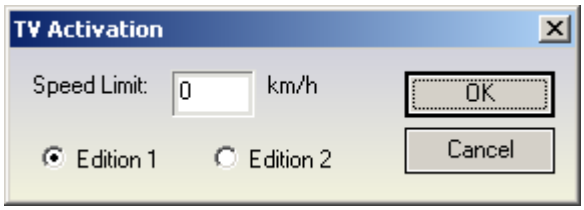
3.5.9Special function “MMI-TV activation”

Using this special function you can change speed limit of MMI compatible vehicles to change speed where TV becomes OFF.

Covered vehicles are:

- Audi A3/S3
- Audi A6/S6 (MMI up to July 2006)

- Audi Allroad (MMI up to July 2006)
- Audi A8/S8 (MMI up to July 2006)
- Audi Allroad (MMI up to July 2006)
- Audi A6/S6 (MMI starting from August 2006)
- Audi Allroad (MMI starting from August 2006)
- Audi A8/S8 (MMI starting from August 2006)
- Audi Allroad (MMI starting from August 2006)



Use the following rule when enabling TV:

-if the car is before 2007 try with edition 1. In case you do not succeed wait with ignition ON for more than 30 minutes and then try with edition 2.
If the car is after 2007 it is better to try at first with edition 2.

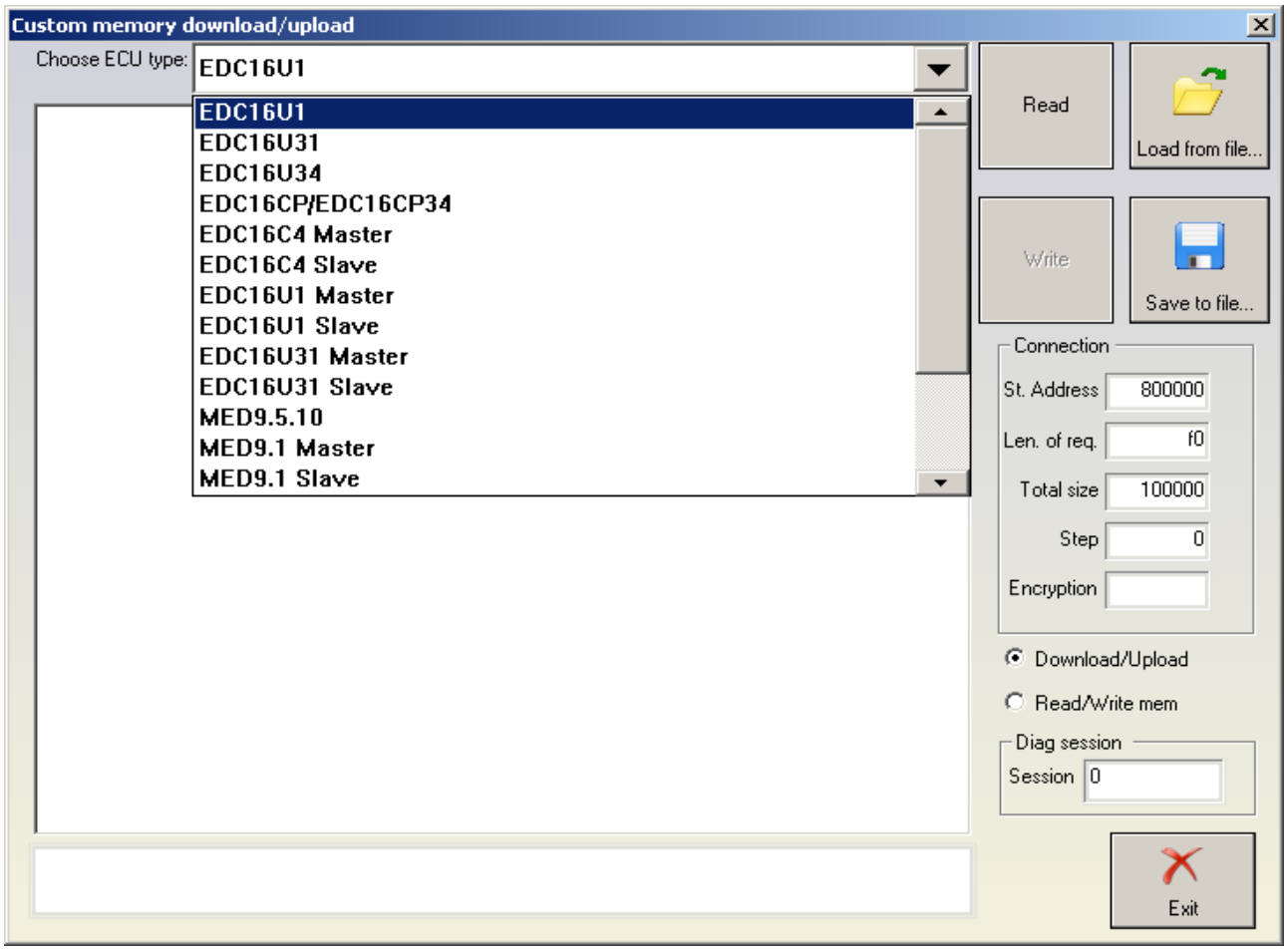
3.5.10Special function “Custom memory access Download/Upload/ReadMemory”

The “Custom memory access Download/Upload/ReadMemory” functionality is available from the “Special functions” list, but also it is available in the standard diagnostic dialog. The functionality is the same on both places with that difference, that in the standard diagnostic dialog the user should open the diagnostic connection, perform security access, enter into diagnostic session prior to starting the custom read/write. When this functionality is opened from the “Special functions” list, these actions are automated and performed from the “ABRITES VAG Commander”.

Using this application you can read/program memory in some electronic control unit. Requests sent from this application can be related for the currently running session of for some of electronic control units from the dialog.

You can use this application for many different purposes – investigations, read/program flash memories (for example you can program by this dialog internal flash memory of EDC16).

In the example below we read a part of the flash of EDC16CP

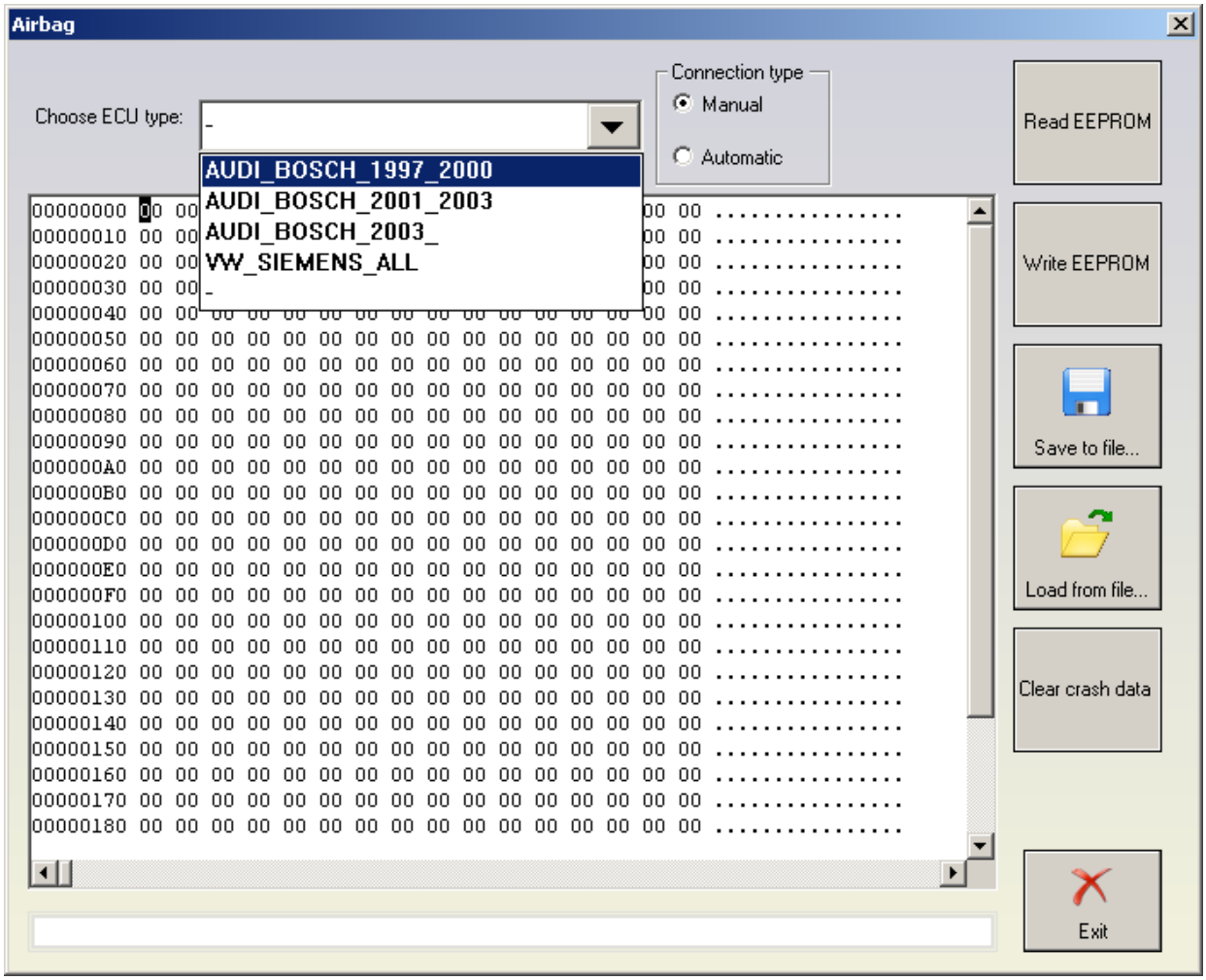


In this dialog is needed to clarify the diagnostic session which you want to be entered before

start of read/program memory.
In the example above it is used session “86”.
If you want to save currently running diagnostic session simply enter session “0”.

3.5.11Special functions with “Airbag”

With this special function one can:
- Read/Write EEPROM memory of an airbag module
- Clear the crash data of an airbag module



For some airbag models it is not enough to clear the trouble codes (using "Clear DTCs" diagnostic request), but the crash data stored into device's EEPROM should also be cleared.
For some models (see "Covered units:" below) crash data can be automatically cleared (using “Clear crash data” function) from device’s EEPROM, but for some models the user has to do this by hand (read EEPROM memory (using “Read EEPROM” function), find where crash data is stored, change data, write EEPROM memory back(using “Write EEPROM” function)).

Covered units:

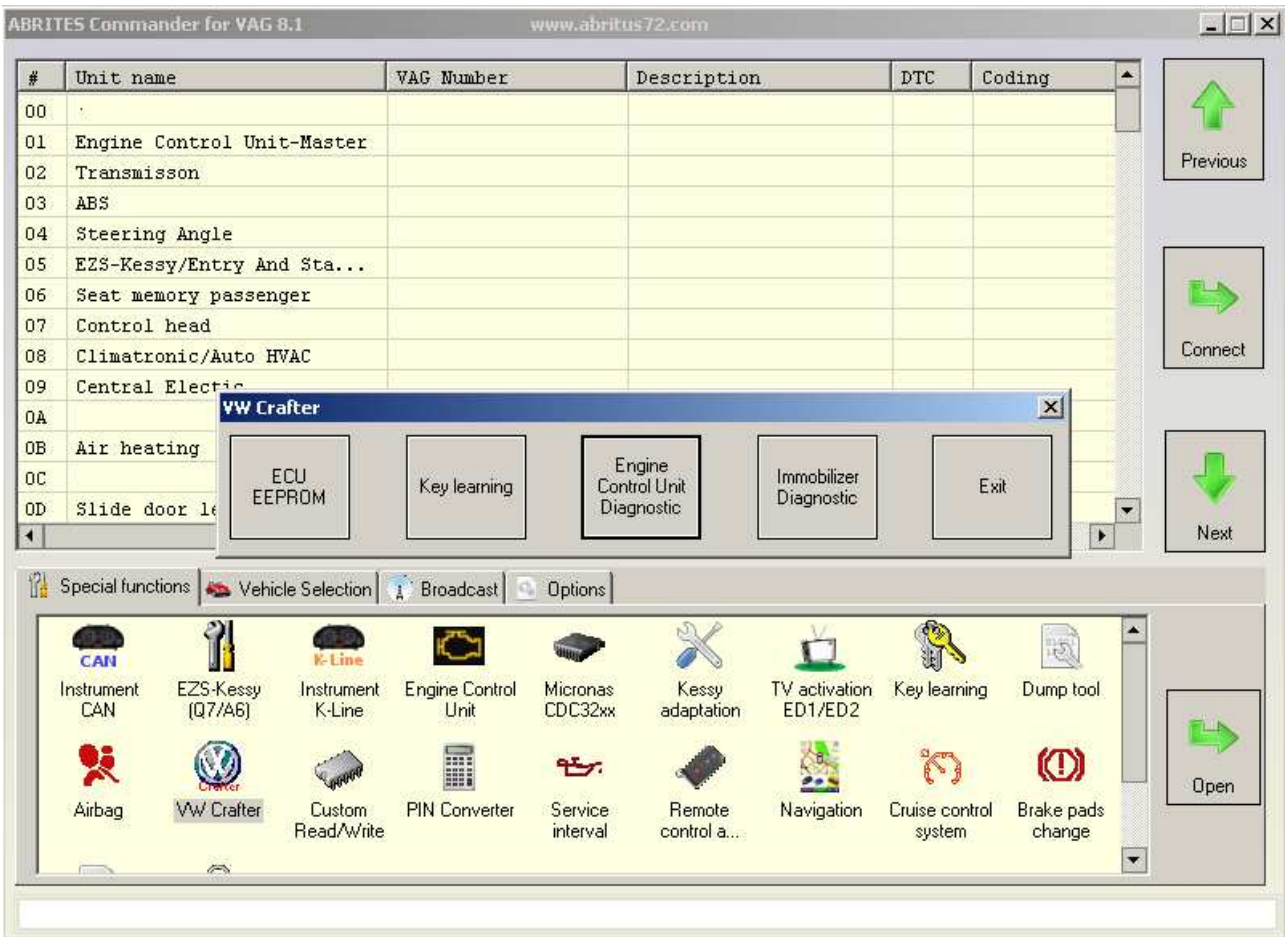
1C0 909 605 C, 8L0 959 655 A, 1J0 909 609, 6Q0 909 605 C,6Q0 909 605 A, 6Q0 909 605 B, 3B0 959 655 B, 1C0 909 605 F, 1C0 909 605 H, 1J0 909 607, 1J0 909 603, 4B0 959 655 C, 4B0 959 655 J,
4D0 959 655 C, 8L0 959 655 F,8A0 959 655 C, 8A0 959 655 K, 8A0 959 655 K, 4D0 959 655 H, 8D0 959 655 C, 8D0 959 655 L

3.5.12Special function “VW Crafter”

This special function gives the possibility:
–read the engine control unit EEPROM together with the PIN code and component security
–read/write mileage into engine control unit
–make immobilizer ON/OFF
–learn keys with prepared transponders
–perform diagnostic on the engine control unit and the immobilizer.

NOTE: It is possible to connect only to the engine control unit and immobilizer for VW Crafter vehicles. To connect to any other device you will need the ABRITES Commander for Mercedes.

Starting this special function brings a following dialog:



From these buttons is possible:
–when pressing “ECU EEPROM” the same dialog as in the “Engine control unit” is brought to the user and is possible to read EEPROM, change mileage and make immobilizer bypass from here. Not needed to select any engine type, it is made automatically
–pressing “Key learning” will bring the “Key learning” dialog, the user is not required to select a model, it is selected automatically
–“Engine control unit diagnostic” will perform a standard diagnostic (reading identification, trouble codes, etc.) to the engine control unit.

–“Immobilizer diagnostic” will perform a standard diagnostic (reading identification, trouble codes, etc.) to the immobilizer.

NOTE: If the car doesn't have any working key it is not possible to give ignition ON, respectively to get communication with the engine control unit over OBDII because the gateway (the EZS in this case) is not gating the CAN messages to the engine control unit if no valid key is recognized. So if you've a car without any valid key, you will need dismount the ECU and connect it on the table, or to connect the CAN wires of the ECU directly to the interface.

NOTE: For the key-learning it is needed to give ignition with the valid key before starting the procedure. If there is no valid key, simply put the key into the ignition lock, but the key-learning procedure will take about 5 minutes in this case. When the procedure is finished you will need to make ignition ON with each key which you want to learn.

NOTE: Sometimes during communication with the immobilizer it is possible to lost communication with it, so you will need to repeat the procedure in this case.

3.5.13Special function “Key learning”

Inside every key there is a small chip called a “transponder”. In most cases this chip doesn’t require an external power supply but is supplied from the magnetic field, which induces electric current. The immobilizer recognizes whether a proper key is used to start a car exactly by using the transponder. With the evolution of the VAG cars the transponder type and the records inside it have changed. In general, there are five different types of immobilizers/transponders used. They are called Immo I, Immo II, Immo III, Immo IV and Immo V. Systems from ImmoI till Immo III require simply that a transponder from the proper type is found inside the key, and they are able to learn these transponders.
Starting from Immo4 it is required that the transponder is from the proper type, but also has some specific records inside it. Only transponders with such correct records can be learned. According to the data inside there are the following types of transponders:
- Tp22 – dedicated for use inside Seat vehicles;
- Tp23 – dedicated for use inside Volkswagen vehicles;
- Tp24 – dedicated for use inside Skoda vehicles;
- Tp25 – dedicated for use inside Audi vehicles (especially A3 and A4);
Such transponders can be used in all cars of the specific producer (e.g. Tp24 can be used for all Skoda models);

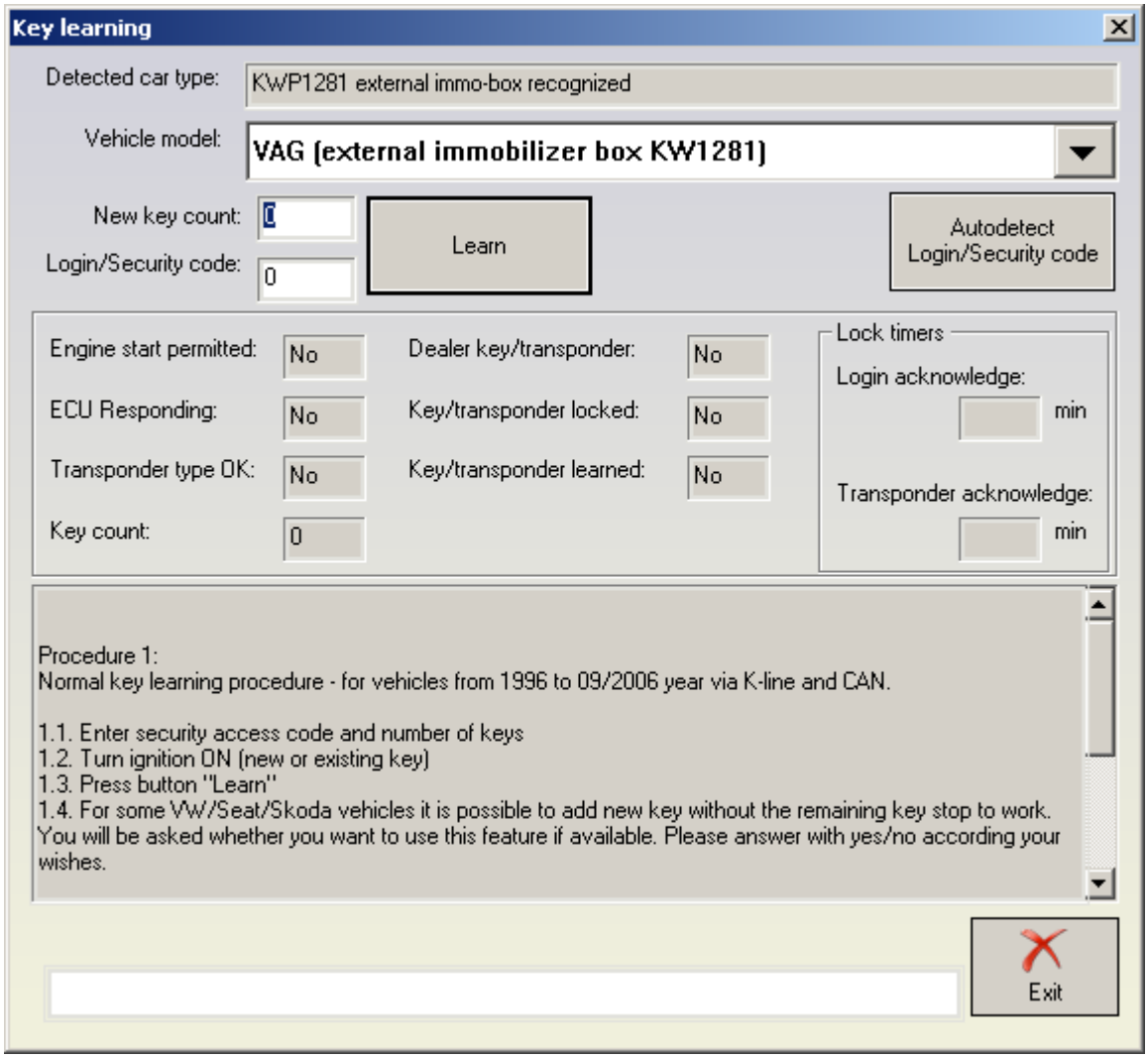
The last immobilizer system used in VAG is the Immo V. It requires that the transponder is programmed with a specific code, and this code depends on the VIN number and is unique for each car. Normally, only the car producer can deliver such keys and such keys are called “dealer keys” (because only the dealer can supply them).

For some cars a special programmer is needed in order to prepare the key to be like an ordered from the authorized VAG dealer. Currently following programmers are supported:
–Hitag2 programmer – used only to program keys with Hitag2 transponders (PCF7936, PCF794x). Such cars are VW Touareg/VW Phaeton/Porsche Cayenne/Bentley Continental/Audi A8

–Tango programmer - used to program Hitag2 and Megamos 48 crypto transponder.
–Abrites Key (Tag) programmer - used to program Hitag2, Megamos 48 crypto transponder, and Q7/A6/RS6/Allroad keys
The “Tango programmer” and the “Abrites key programmer” are referred as “key programmer” in the following description.

Normally, there are several key-learning procedures which are applied depending on the car type and year of production. You can check in the appendix section which car to which key-learning procedure belongs.

Starting the “key learning” special function will bring the following dialog:



The customer has to choice the vehicle model for which it wants to learn a key.
In the background the system tries to determine automatically what vehicle model is. If succeeded the recognized model will be selected automatically. If the system cannot recognize the model, the user has to choice the model manually.

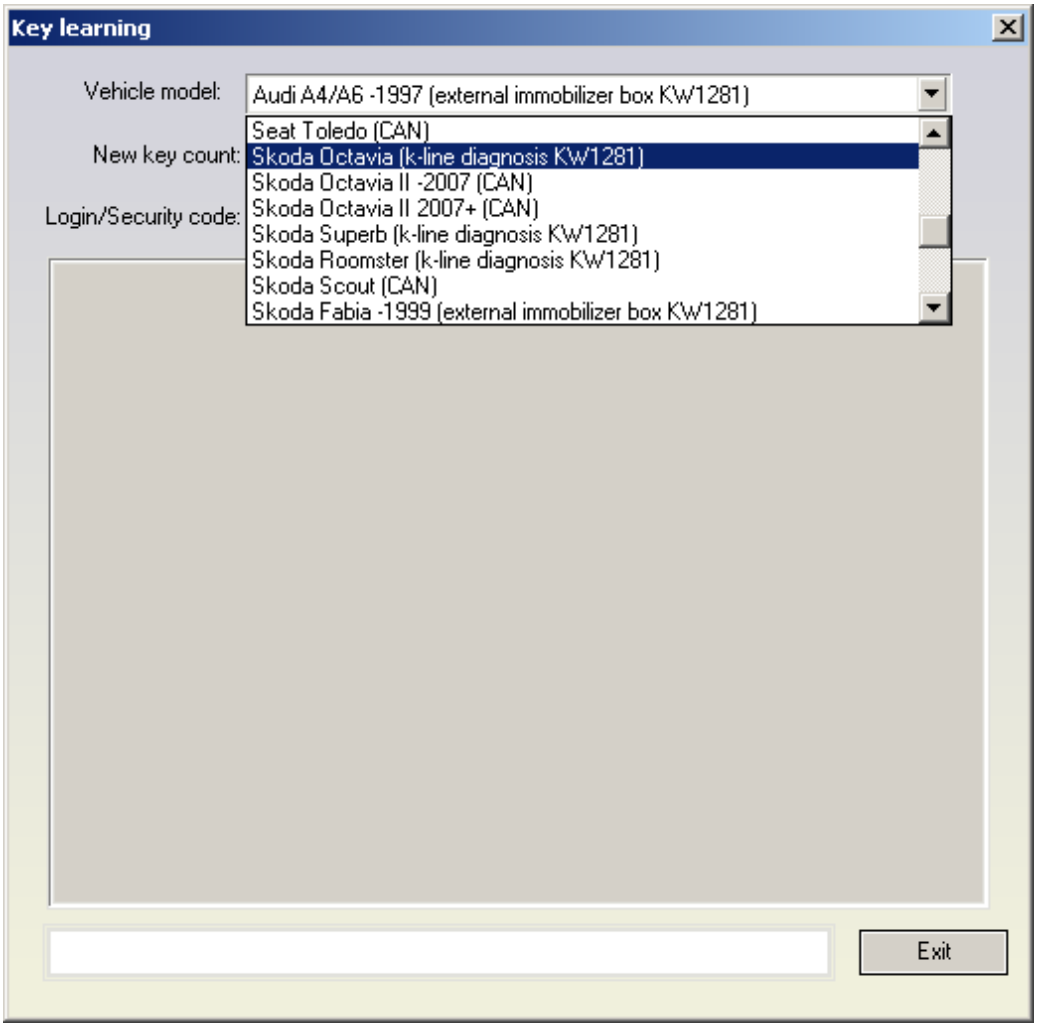
NOTE: It is possible that the system doesn't recognize correctly the model. In this case you've to select the model manually. For example it is not possible to distinguish between “VW CAN -2007” and “VW CAN (2007+)”, for that reason by default “VW CAN (2007+)” is selected by default.

After the vehicle model is recognized, the system checks the key recognition and engine start conditions. They are displayed in the following fields:
–Engine start permitted: Having the value “No” means that the key or engine control unit is not properly identified from the immobilizer. Reason for that might be invalid key, or engine control unit not adapted to the car, or for some model some waiting time is running. “Yes” here means that the immobilizer recognize properly the key and the engine is allowed to start, i.e. everything is OK.
–ECU Responding: This shows whether the immobilizer is able to communicate with the engine control unit
–Transponder type OK: This is used as indication whether the key on the ignition has the correct transponder type. For example for Audi A3 car the immobilizer expect Megamos 48 transponder, but if you put dedicated for Audi A8 (which uses Hitag2 transponder), then here the value will be “No”. If there is no key into the ignition, you will have “No” once again.
–Key count: shows the currently learned keys. After completing the key-learning procedure this field should be updated to the new value if all keys were learned correctly.
–Dealer key/transponder: Shows whether the keys/transponder was successfully precoded to the specific car. After making a dealer key this position should change to “Yes” if you put the prepared transponder into the ignition
–Key/transponder locked: indicates whether the transponder is writable.
–Key/transponder learned: Indicates whether the transponder ID is recognized from the immobilizer as valid ID for starting the car. After learning the key/transponder to the car this should change to “yes”
–Lock times – login acknowledge: if invalid login was put several times to the immobilizer, the immobilizer rejects further attempts to put the login. This timer indicates how many times remains until new login attempt can be accepted
–Lock timers – transponder acknowledge: If you give ignition OFF/ON cyclically, the immobilizer stops to recognize the transponder, and even valid transponder will not start the car. This timer shows when the immobilizer will recognize transponders. This value is typically set when trying to make keys for Passat B6/CC

To perform the key-learning you will need the Login, and for some models also a dealer key. One way to obtain the login is to press the “Autodetect Login/Security code” button. This will read the login and also the component security. If after that the option for making a dealer key is opened, this login/component security will be used there automatically.

3.5.13.1Procedure 1 – Normal key learning procedure – for vehicles from 1996 to 09/2006 year via K-line and CAN.

From Special functions - Key Learning choose vehicle model.



1.1. Enter security access code and the number of keys

1.2. Turn ignition ON (new or existing key)

1.3. Press button “Learn”

1.4. For some VW/Seat/Skoda vehicles it is possible to add a new key without the remaining key stopping to work. You will be asked whether you want to use this feature. Please, answer with yes/no according to your wishes.

1.5. Wait until “adaptation finished” is displayed

1.6.Remove the key and turn ignition off with all remaining keys

NOTE: The system will autodetect whether it is possible to add the key without erasing the remaing keys. If possible and if 1 key is selected, then and only then, a message will appear where you've to confirm that you want to add the key. If you press “No” here the key will be learned normally (other keys will be erased). If you select other than 1 key to learn, or if adding is not possible, than the key will be learned normally (with erasing other keys which are not present). For the case where the key will be added you should give ignition with the key which you want to learn – this should be a TP2x transponder for older cars, and prepared dealer key for newer cars (e.g. after 2007). Please pay attention that during the autodetection whether adding is possible, reflashing of the instrument may be needed (for newer cars 2007+), so you will be asked for that.

You must use Keys or transponders – TP05,TP08,TP22,TP23,TP24

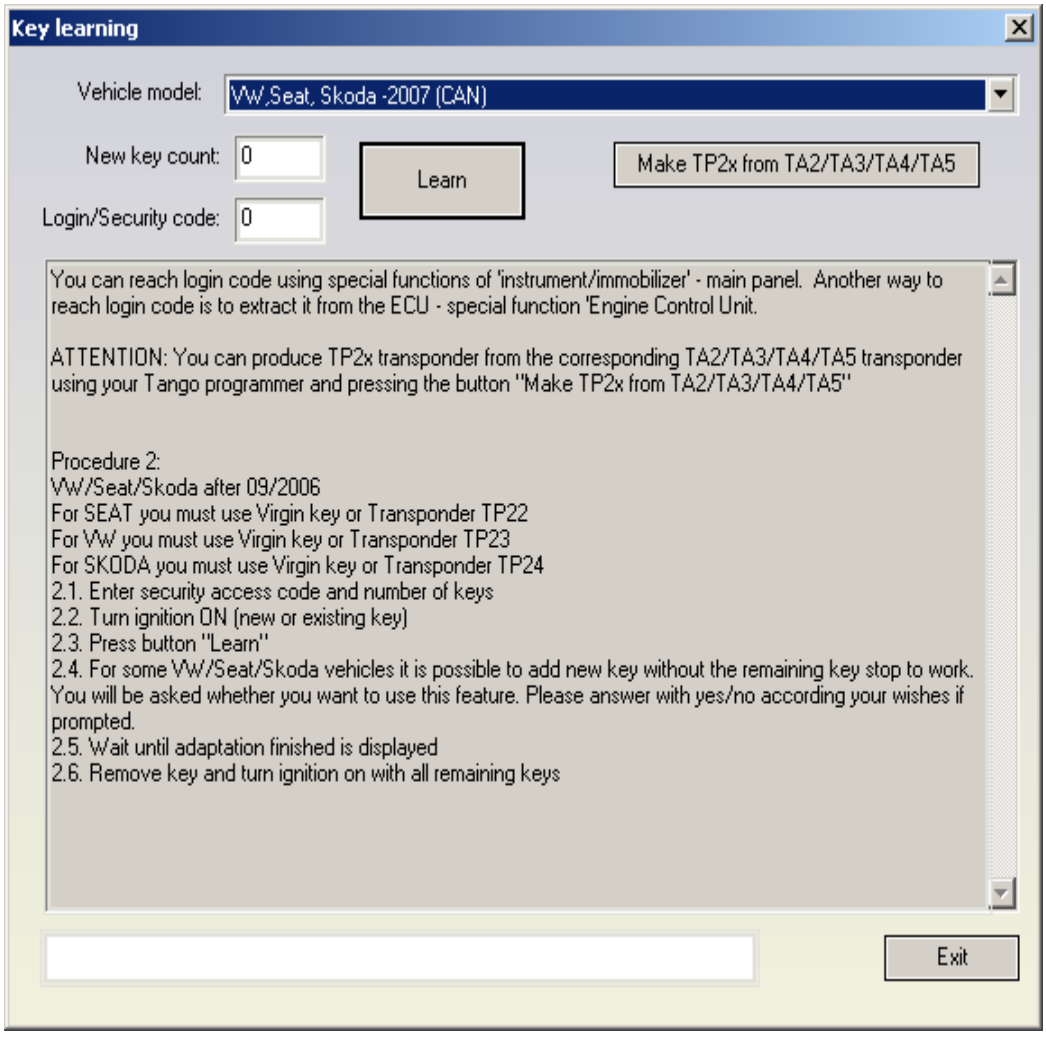
Note: some of the new vehicles need to remain with ignition ON five minutes before starting of the key learning procedure (VW Golf5, Skoda Octavia II, VW Touaran, Seat Toledo 2004+,...). Other vehicles may need to stay more than 30 minutes with ignition ON until programming becomes allowed (Skoda Fabia 2006+, Skoda Roomster 2006+, Skoda Superb 2007+, VW Polo 2006+, Seat Ibiza 2006+)

3.5.13.2Procedure 2 – for CAN vehicles after 09/2006 year – VW, SEAT,SKODA

For this type you will need a virgin key or transponder (TP22/TP23/TP24 depending on the type of the car) as follows:

For SEAT you must use Virgin key or Transponder – TP22,
For VW you must use Virgin key or Transponder – TP23
For SKODA you must use Virgin key or Transponder – TP24

You need to choose from Special functions – Key learning – VW,Seat, Skoda -2007 (CAN)


Key learning
Vehicle model:
VW,Seat, Skoda -2007 (CAN)
New key count:
0
Learn
Make TP2x from TA2/TA3/TA4/TA5
Login/Security code:
0
You can reach login code using special functions of 'instrument/immobilizer' - main panel. Another way to reach login code is to extract it from the ECU - special function 'Engine Control Unit.
ATTENTION: You can produce TP2x transponder from the corresponding TA2/TA3/TA4/TA5 transponder using your Tango programmer and pressing the button "Make TP2x from TA2/TA3/TA4/TA5"
Procedure 2:
VW/Seat/Skoda after 09/2006
For SEAT you must use Virgin key or Transponder TP22
For VW you must use Virgin key or Transponder TP23
For SKODA you must use Virgin key or Transponder TP24
2.1. Enter security access code and number of keys
2.2. Turn ignition ON (new or existing key)
2.3. Press button "Learn"
2.4. For some VW/Seat/Skoda vehicles it is possible to add new key without the remaining key stop to work. You will be asked whether you want to use this feature. Please answer with yes/no according your wishes if prompted.
2.5. Wait until adaptation finished is displayed
2.6. Remove key and turn ignition on with all remaining keys
Exit

NOTE: If you have aa Key programmer you can produce the corresponding TP2x transponder which will be then accepted by the immobilizer. This is done by using the “Produce TP22/TP23/TP24/TP25 transponder” button. This requires only a connection with the Key programmer, no connection to the car is needed.

The key-learning procedure when have a Tp2x transponder is the following:

2.1. Enter the security access code and the number of keys
2.2. Turn ignition ON (new or existing key)
2.3. Press button ”Learn”
2.4. For some VW/Seat/Skoda vehicles it is possible to add a new key without the remaining keys to stop working. You will be asked whether you want to use this feature. Please answer with yes/no according to your wishes, if prompted.
2.5. Wait until adaptation finished is displayed
2.6. Remove key and turn ignition on with all remaining keys

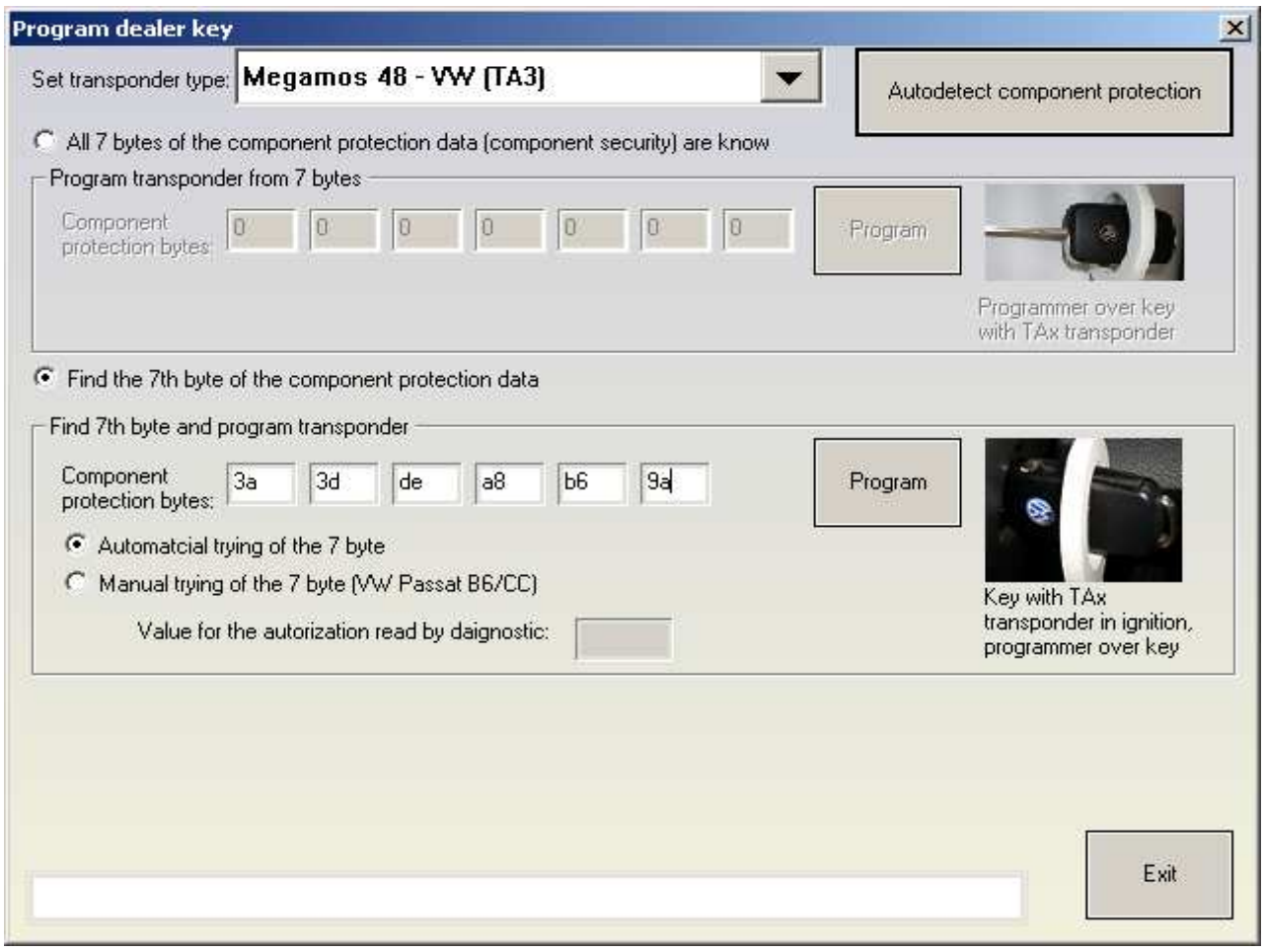
3.5.13.3Procedure 3 – for CAN vehicles 2008+, Passat B6, Audi A3 CAN

Normally, most of the newer cars require a transponder which is precoded with the VIN number from a dealer. Fortunately, it is also possible to precode the transponder by yourself using the Key programmer if you have available the 7 bytes of the component protection data and you need to use an Megamos 48 transponder as base for this operation.

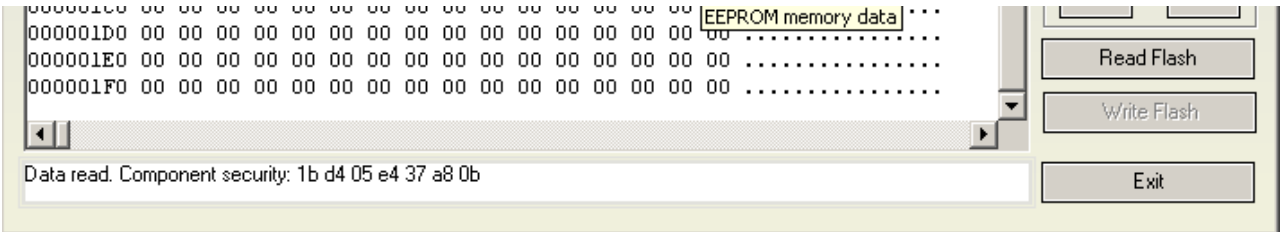
NOTE: The “Set transponder type” combo-box specifies what kind of dealer key to make (for VW, Seat, Skoda or Audi). As base for this operation is used Megamos 48 transponder.

If you have a dealer key/transponder you can proceed with normal key-learning (like procedure 1). Simply put the number of keys to learn and the security access code and the keys will be learned.

But - if do not have a dealer key then you should press the “Program dealer key” button which will show the following dialog:


Program dealer key
Set transponder type:
Megamos 48 - VW (TA3)
Autodetect component protection
All 7 bytes of the component protection data (component security) are know
Program transponder from 7 bytes
Component protection bytes:
0 0 0 0 0 0 0
Program
Programmer over key with TAx transponder
Find the 7th byte of the component protection data
Find 7th byte and program transponder
Component protection bytes:
3a 3d de a8 b6 9a
Program
Automatcial trying of the 7 byte
Manual trying of the 7 byte (VW Passat B6/CC)
Value for the autorization read by daignostic:
Key with TAx transponder in ignition, programmer over key
Exit

The 7 bytes of the component protection data are contained inside the immobilizer and sometimes inside the engine control unit. Inside the engine control unit there are stored always at least 6 of the component protection bytes, sometimes also the 7th byte is contained.
There are several ways to extract the component security:
–Simply press the “Autodetect component security” and the component security bytes will be read from the ECU. This will also automatically decide whether you've the 7th byte, or you've to search for it. Also the login will be displayed in the status bar. The autodetection is not always possible, it works basically for EDC16 and MED9x engines which are using CAN diagnostic connection.
–The component protection bytes are displayed e.g. using the special function “Engine Control Unit” - when reading the EEPROM of the engine control unit then VAG Commander will show you the component security bytes:



–For CAN immobilizers till end of 2006 it is possible to read all 7 bytes from the instrument/immobilizer. This is possible from the Immo panel - you've to go to “Special function”, then “Instrument CAN” and “Read/write immo data”. After you read the immobilizer data in the field “Serial Key” the 7 bytes of the component security will appear.

3.5.13.3.1Programming a dealer key with all 7 bytes available

If the 7th byte is different from “00” then you have all the 7 bytes of the component security and you are able to prepare a transponder directly with the Key programmer. In this case you must choose “All 7 bytes of the component protection data (component security are known)”, put the 7 bytes and press the “Program” button.

3.5.13.3.2Finding the 7th byte

If the 7th byte is not available you must choose “Find the 7th byte of the component protection data” and you have to put the six bytes which are known. There are two possible ways to check whether the 7th byte is matched:

- automatically

  This mode requires that the immobilizer and the Key can simultaneously read/write the transponder. For that reason it is required that the ring coil is dismounted from the ignition lock and placed over the Key programmer.

  Unfortunately, for some models it is not possible to dismount the ring coil and it is required that the Key programmer is placed near the key in the ignition lock so the Key programmer is able to read/write the key. Please refer to the picture below:

NOTE: The automatical check might be not possible for some models (e.g. VW Passat B6). So it is required that the manual procedure is used in this case.

- Manual

The main difference between the automatical and manual procedure is that by the manual procedure you should put the key into the programmer, then make a ignition with it, and then once again to the programmer and so on until the byte is found.
If you use the manual procedure you will be consecutively invited to put the transponder into the program, and than to give it to the ignition.
Normally for the most models it is required that the key is in the ignition, and you change only the position of the transponder. You will be invited to put the transponder into the programmer, then to put it near ignition lock so it is read by the immobilizer. Exception from this is e.g. the Passat B6. For it it is required that you put the key with the transponder is put into the programmer, then the key with the transponder is put into the ignition lock, BUT TILL FIRST POSITION, than again into the programmer, and again into the ignition lock until the byte is found.

NOTE: If you get “XXX” is displayed you need to stop on the current position and wait 10minutes before you continue.

ATTENTION: For the Passat B6 there are some cars for which you cannot search for the 7th byte. For such cars a key can be made only by opening the comfort module and reading the comfort module EEPROM. Then after having the 6 bytes of the component security from the engine, you can extract the 7th byte from the comfort module EEPROM using the dump tool. It is also possible to program directly the key to the car from the dump tool if you've attached a programmer. For more details please refer to the dump tool section.

ATTENTION: As mentioned above for some cars it is not possible to find the 7th byte of the components security. You can understand whether for the desired car is possible by performing the following procedure:
a) Connect with 25-Immobilizer and go to “Measured Vaues”, Channel 2
b) Put the original key or key with Megamos 48 transponder – in this case in the Measured values you should have “yes” or “1” on the second possition of channel 2
c) Eject the key so there is no key in the ignition lock
→ If the second positions changes to “No” or “0” you CANNOT search for the 7th byte
→ If the second positions remains “Yes” or “1” you can search for the 7th byte

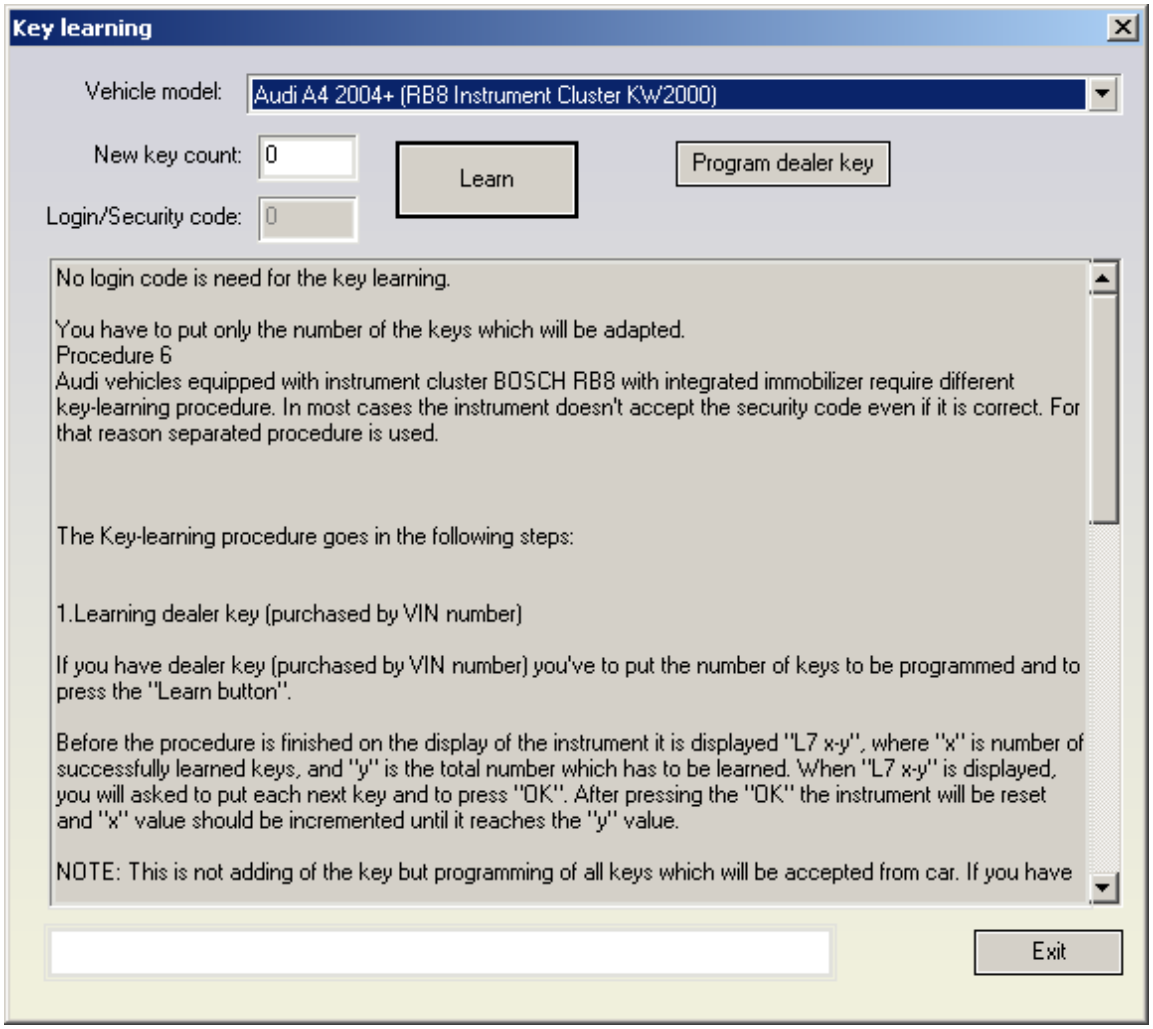
After you obtain a dealer key/transponder you can proceed with normal key-learning (like procedure 1). Simply put the number of keys to learn and the security access code and the keys will be learned.

3.5.13.4Procedure 4 – No more applicable. Use procedure 3 instead.

3.5.13.5Procedure 5 – No more applicable. Use procedure 3 instead.

3.5.13.6Procedure 6 – for Audi A4 (RB8)

Audi vehicles equipped with instrument cluster BOSCH RB8 with integrated immobilizer require a different key-learning procedure. In most cases the instrument doesn't accept the security code even if it is correct. For that reason a different procedure is used. You need to choose from Special functions – Key learning – Audi A4 2004+ (RB8 Instrument Cluster KW2000). The following buttons will be available:


Key learning
Vehicle model:
Audi A4 2004+ (RB8 Instrument Cluster KW2000)
New key count:
0
Learn
Program dealer key
Login/Security code:
0
No login code is need for the key learning.
You have to put only the number of the keys which will be adapted.
Procedure 6
Audi vehicles equipped with instrument cluster BOSCH RB8 with integrated immobilizer require different key-learning procedure. In most cases the instrument doesn't accept the security code even if it is correct. For that reason separated procedure is used.
The Key-learning procedure goes in the following steps:
1.Learning dealer key (purchased by VIN number)
If you have dealer key (purchased by VIN number) you've to put the number of keys to be programmed and to press the "Learn button".
Before the procedure is finished on the display of the instrument it is displayed "L7 x-y", where "x" is number of successfully learned keys, and "y" is the total number which has to be learned. When "L7 x-y" is displayed, you will asked to put each next key and to press "OK". After pressing the "OK" the instrument will be reset and "x" value should be incremented until it reaches the "y" value.
NOTE: This is not adding of the key but programming of all keys which will be accepted from car. If you have
Exit

The Key-learning procedure goes in the following steps:

1.Learning a dealer key (purchased by VIN number)

If you have dealer key (purchased by VIN number) you have to put the number of keys to be programmed and to press the “Learn button”.

Before the procedure is finished on the display of the instrument is displayed „L7 x-y“, where „x“ is the number of successfully learned keys, and „y“ is the total number which has to be

learned. When „L7 x-y“ is displayed, you will be asked to put each next key and to press „OK“. After pressing the „OK“ the instrument will be reset and “x“ value should be incremented until it reaches the „y“ value.

NOTE: This is not adding of the key but programming of all keys which will be accepted by the car. If you have some other keys which you don't learn here, they will stop working.

2.Preparing a dealer key

If you have a Key programmer you can prepare a dealer key from a Megamos 48 transponder. Put how many dealer keys you want to program and press the “Program dealer key”. It is not required to enter anything; the VAG Commander connects to the RB8 instrument and reads all required information.
After the dealer key is prepared you can proceed like in the case “Learning dealer key (purchased by VIN number)”

NOTE: When reading the RB8 EEPROM the device is put into service mode and “L0 x-y” is displayed. If by any reason the instrument leaves in this situation (e.g. if your laptop goes off due to flat battery, or you disconnect the interface from the car, or the car battery is flat), you need to read the RB8 instrument EEPROM, and change the immobilizer status to 6.

3.5.13.7Procedure 7 - For vehicles with Hitag2 Key (transponder) from 2004 to 2007 year – VW Touareg, VW Phaeton, Bentley Continental, Porsche Cayenne

You must use a virgin transponder PCF7936 or a virgin key, no need for some special preparation. If you use a Transponder - you need to switch it in Cipher (Crypto) mode. You can use your Key programmeror HiTag2 programmer for that purpose if you have one. This is done by replacing 0x06 with 0x0E in the first byte of the configuration page (Configuration page is page 3 where page 0 is the transponder ID, and pages 1 and 2 are the secret key). If this value is already 0x0E then the transponder is already in cipher mode.
After the transponder is switched into cipher mode the key-learning procedure goes as follows: From Special functions - Key Learning choose vehicle model, Write how many keys you need to program, enter security access and push the "Learn" button. Then follow strictly the recommendations.

3.5.13.8Procedure 8 – for vehicles with a Hitag2 Key (transponder) 2007+ or Audi A8 (CAN) produced after year 2002.

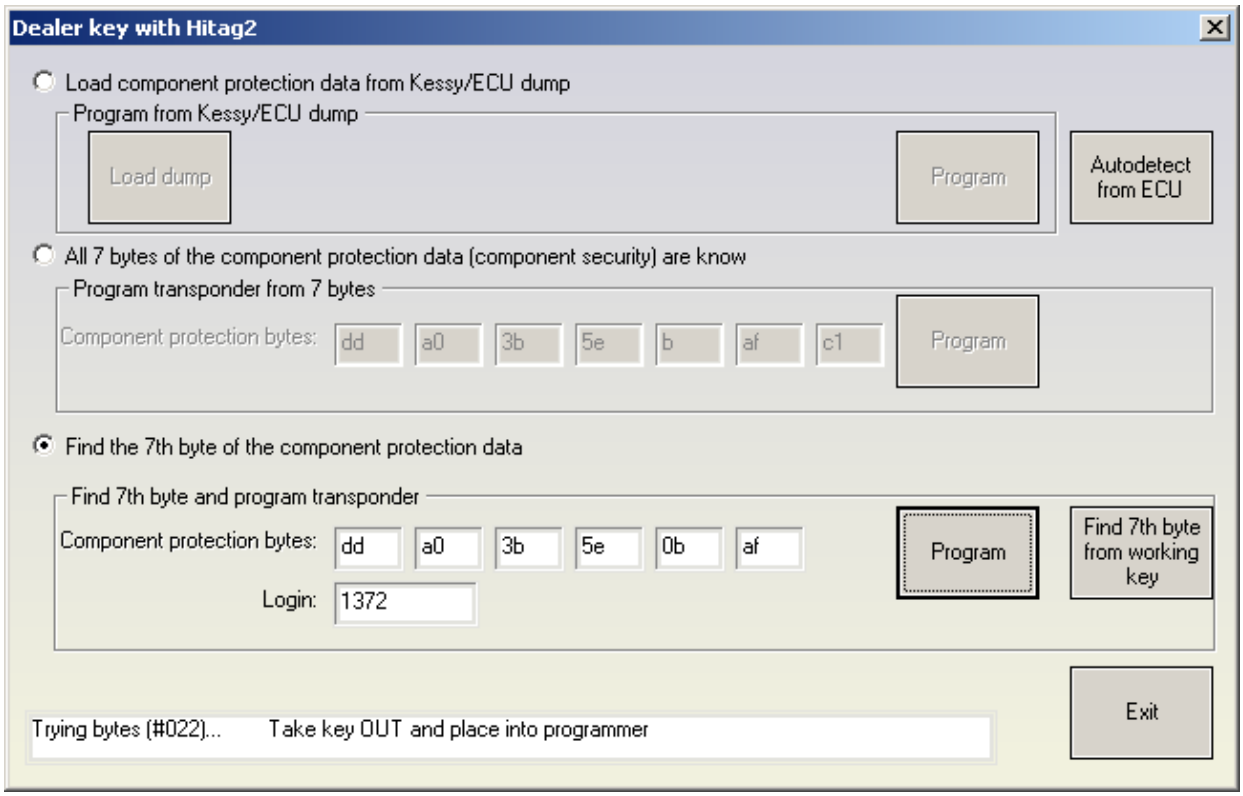
For vehicles after year 2007 (or Audi A8) you need to prepare a Hitag2 key (transponder) before you use the key learning function.
You can use a virgin transponder PCF7936 or a virgin key.

1. From Special functions - Key Learning choose vehicle model, Push "Program dealer key". The following dialog will appear

2. There are following possibilities:

2.1 Making the key without disassembling the Kessy (completely by OBDII)

The “Autodetect from ECU” button will try automatically to read the component security bytes from the ECU, and will select for you automatically whether you need to search for the 7th byte or not.



IMPORTANT: If you don't have a working key from the car, you will need to short the fuses as described in the appendix to get communication with the ECU.

After the component security is read, if you've all 7 bytes, then you can program the key directly. If you have only the 6 bytes, you have to choice:

a) if you have working key from this car, you can put it into the programmer, and press the “Find 7th byte from working key” - the 7th byte will be found in several seconds;
NOTE: If you use the Tango programmer this function will not work, the function work only on Hitag2 or Abrites key programmer.

b) if you don't have a working key, you've to search manually for the 7th byte. The procedure takes approximately about 20-25 min, but can rise to 45min in the worst case. You've to connect the interface to the OBDII, and the programmer should be connected too. Then after pressing the “Program” button you will receive notification when to put the key into the ignition, and when to put it into the programmer.

IMPORTANT: You need only to put the key inside (for VW Touareg you will hear the unlocking of the steering in this case), please DO NOT ROTATE THE KEY.

IMPORTANT: You may hold the programmer near the ignition lock so you can proceed faster when you remove the key. But please pay attention that the programmer is at least 15cm from the ignition lock so the reading of the key from the car is not disturbed.

NOTE: It is always better to use a plastic key or an empty transponder when you search for the 7th byte, at least when you prepare such keys for the first time. If by some reason the key becomes locked (e.g. battery goes down, computer is hang-up, etc.), you can find the encryption-key with the "Find 7th byte from working key" button, and then you can restore the key with the Hitag2 key tool.

2.2 Making the key by disassembling the Kessy or the ECU

You can load a dump of the Kessy or ECU using the "Load component protection from Kessy/ ECU dump" radio-button. After pressing the "Load dump"button you've to select the respective dump file, after that the "Program" button will be active.

NOTE: Please pay attention that in the ECU dump sometimes there are only 6 of the component security bytes. In this case you will need to search for the 7th byte.

NOTE: Please pay attention that if you have the Kessy dump, then you will have all the 7 bytes. But there are a lot of Kessy devices with different software versions, so it is possible that the EEPROM is incorrect decrypted (especially for newer cars) , respectively the component security bytes will be wrong. In this case the key will not work and you will need to restore the key using the Hitag2 programmer.

2.3. Making the key in the case when the Autodetect button is not functioning

It is possible that by some reason the Autodetect button is not functioning, e.g. missing license, you don't make the short with the fuses properly, ECU is missing or is broken, and so on. If you've already read the component security bytes previously (e.g. by dissoldering the ECU EEPROM and decoding it by dump tool), then you can put the component security bytes manually and proceed as described in step 2.1

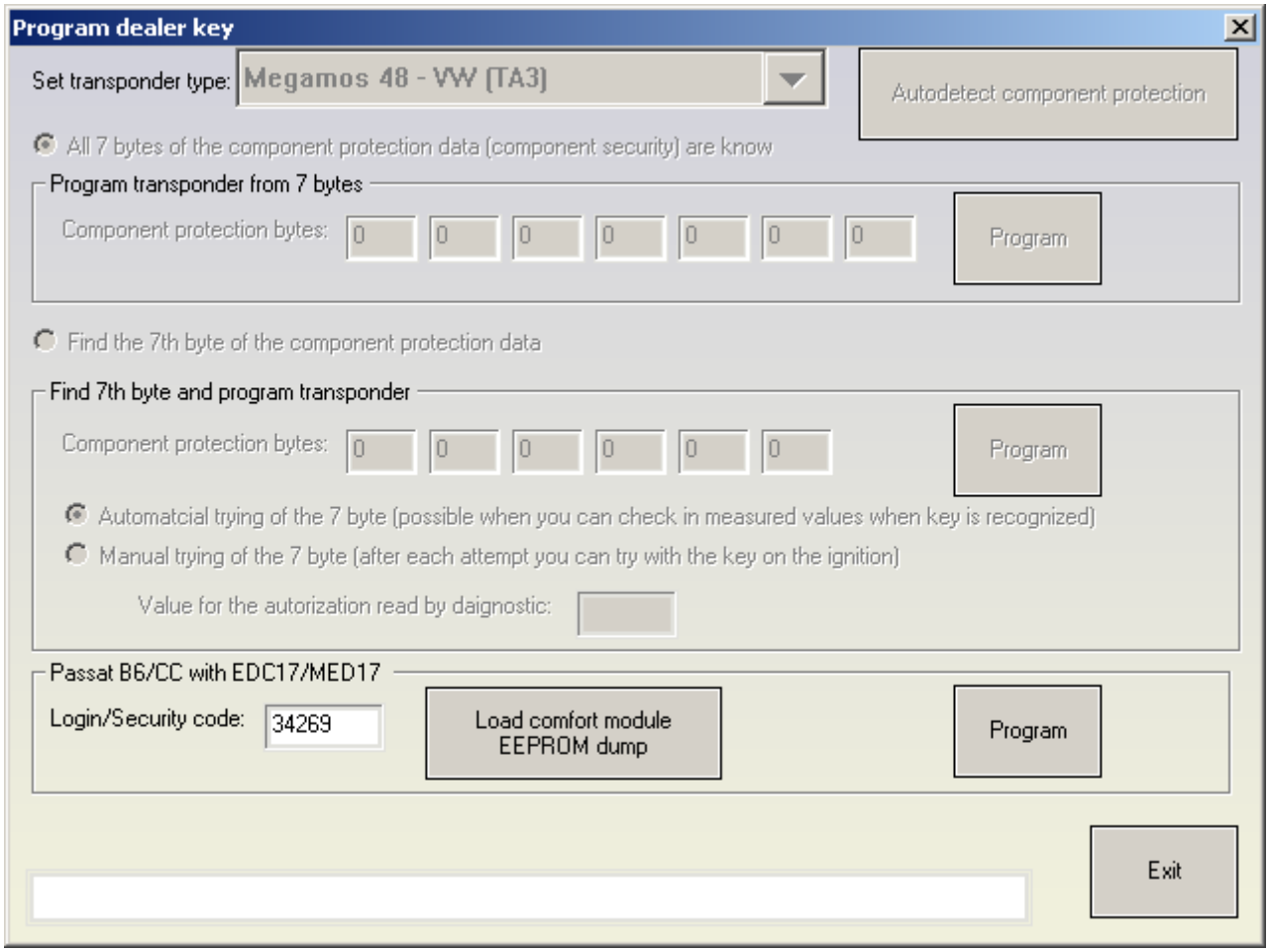
3. After the key is programmed like a dealer key, write how many keys you need to program, write security access and push "Learn" button.

3.5.13.9Procedure 9 – for vehicles Audi A6,Q7,Allroad 2005+

It is possible to program a key for the Audi A6/Q7/Allroad but this function is not located in the "key-learning" dialog. The function is available in the "EZS-Kessy (A6/Q7)" function from the "Special functions" list. This is so because it requires separate license. Please refer to section "Special functions with "EZS Kessy CAN""

3.5.13.10Procedure 10 – for vehicles VW Passat B6/CC equipped with EDC17/MED17

If such car is equipped with EDC17/MED17 then it is not possible to read the component security from the engine control unit. Instead it is only possible to read the PIN code from it. Fortunately it is possible to program a key for such car.
You need to read the PIN from the EDC17/MED17, and also to read the comfort module EEPROM with a programmer.
Then you've to select “VW Passat B6/CC with EDC17/MED17 (CAN)” from the key-learning dialog. To learn a key to this car you should make first a dealer key. This is made by pressing the “Program dealer key” button which brings the following dialog:


Program dealer key
Set transponder type:
Megamos 48 - VW (TA3)
Autodetect component protection
All 7 bytes of the component protection data (component security) are know
Program transponder from 7 bytes
Component protection bytes:
0 0 0 0 0 0 0
Program
Find the 7th byte of the component protection data
Find 7th byte and program transponder
Component protection bytes:
0 0 0 0 0 0
Program
Automatcial trying of the 7 byte (possible when you can check in measured values when key is recognized)
Manual trying of the 7 byte (after each attempt you can try with the key on the ignition)
Value for the autorization read by daignostic:
Passat B6/CC with EDC17/MED17
Login/Security code:
34269
Load comfort module EEPROM dump
Program
Exit

Here you've to put the PIN code, after that to load the comfort module EEPROM dump, and the “Program” button will become active.
After pressing the “Program” button you should perform exactly the same procedure as the manual procedure for the Passat (I.e. you will need to change the position of the key in the programmer, then in the ignition lock, than back in the programmer, then back in the ignition lock, and so on until the dealer key is done. When the transponder is ready, you will have all the component security bytes displayed in the status bar).
After having the dealer key you can learn it in absolutely the same way as for the Passat B6/CC with EDC16 or MED9.

3.5.14Special function “Dump Tool”

Using this application you can calculate security access codes, change odometer and so on.
This application needs the EEPROM dump from the corresponding unit. After the dump is loaded some modification will be made and you need to store the dump as a new file, which you can program into the device.
For more details about the concrete functions, please refer to the appendix.

3.5.15Special function “Service Interval”

Using this application, you can perform reset of the service reminder, reset of the service interval parameters or change service interval options.
With the opening of the special function window, the commander will connect to the instrument cluster and read the available information concerning the service interval function.
Depending on the vehicle model, year, etc. you will have enabled “Service reminder reset” or/and “Service interval reset” or/and “Change service options” sections.
Together with these sections in the section “Applicable adaptation channels” you will see the adaptation channels which values will eventually change if you select one of the listed above three operations, with their current values, units and short description.
When the read information is first loaded and also when certain options within the window are changed, column “New value” of the “Applicable adaptation channels” table will be automatically filled with the default values that should be stored into the respective adaptation channels related to the chosen options.
The applicable(and available) adaptation channels from column “New value” are also available for editing, so the user may put there any other values.

3.5.16Special function “Remote control adaptation”

Using this application, you can learn remote controls.
With the opening of the special function window, the commander will connect to the applicable for the vehicle control unit and read any available information related to the remote controls adaptation.
In the “Instructions” window, within the “Remote adaptation” section” will be available directions what should be done to learn remote controls.
Additionally, in the “Available settings” table, will be listed all the applicable adaptation channels with their current values and description which are related to the remote controls function. By editing the “New value” column values and pressing “Change settings” button, the user can change certain settings.

This function is available for Audi A6 2000+, Audi A4 and VW vehicles 2001+, Audi A3 2003+.
For Audi A8, VW Touareg, VW Phaeton, Bentley remote controls are learned with the “key learning” special function.

3.5.17Special function “Navigation”

Using this application, you can enable/disable the “Eject” button of the “Navigation” system, eject the navigation CD/DVD holder and set “tire circumference” value applicable for the navigation controller function.

3.5.18Special function “Cruise control system”

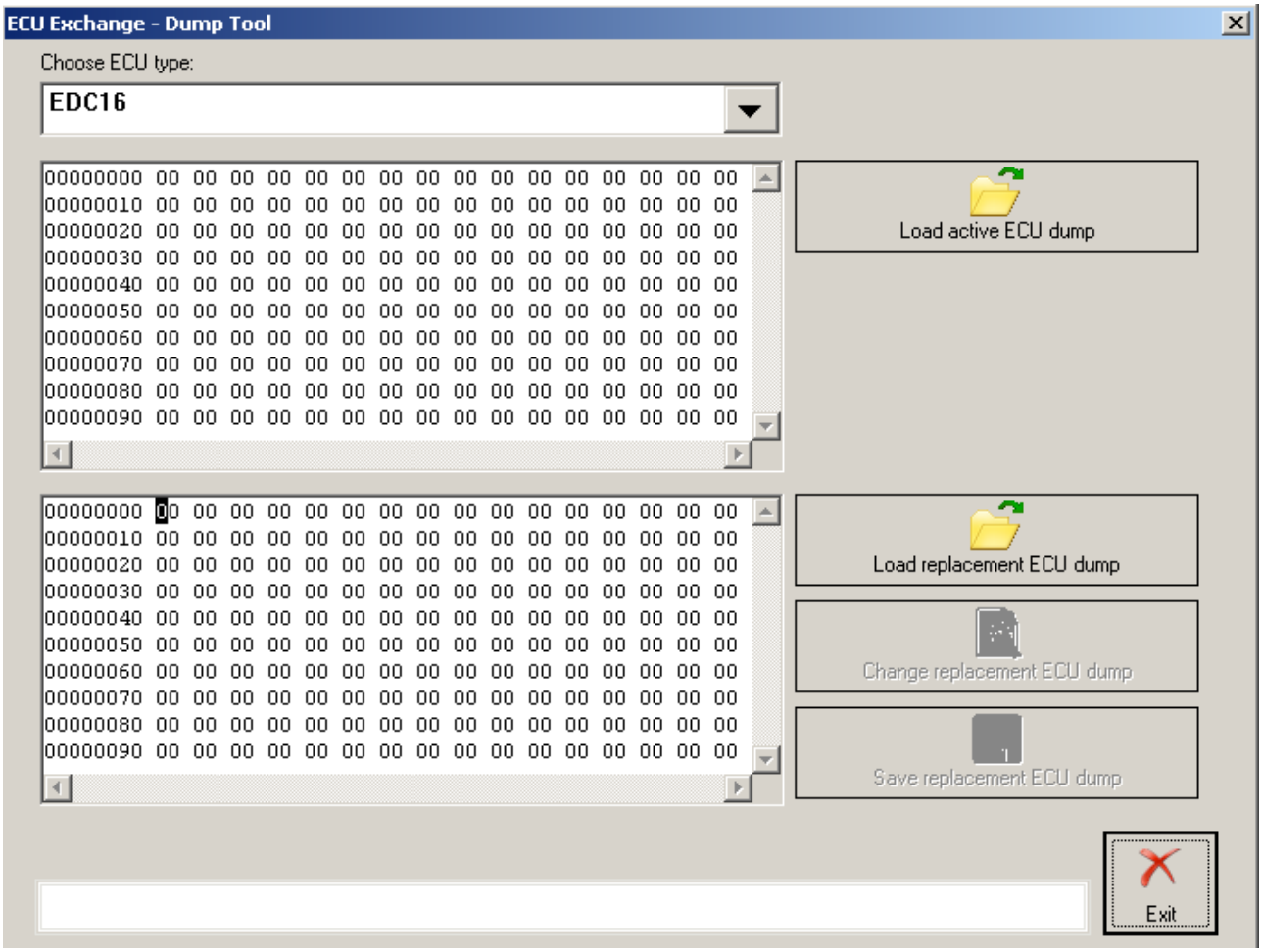
Using this application, you can activate/deactivate a cruise control system and change the related steering wheel electronics(SWE) configuration if SWE unit is available.
With the opening of the special function window, if SWE unit is available, the commander will read and display it's current configuration.
After “Activate Cruise Control” or “Deactivate Cruise Control” button is pressed this will activate/deactivate cruise control system function and apply any changes of the SWE configuration to the SWE unit.

3.5.19Special function “Brake pads change”

Using this application, you can “Open rear parking brake for pad change”, “Close rear parking brake”, perform “Parking brake function test”.
This function is available for the following vehicle models: Audi A8 2004+, Audi A6/allroad 2005+, Audi Q7 2009+, VW Passat B6 , VW Tiguan 2009+.
For vehicle model Audi A8, it is also possible to set the pad thickness.

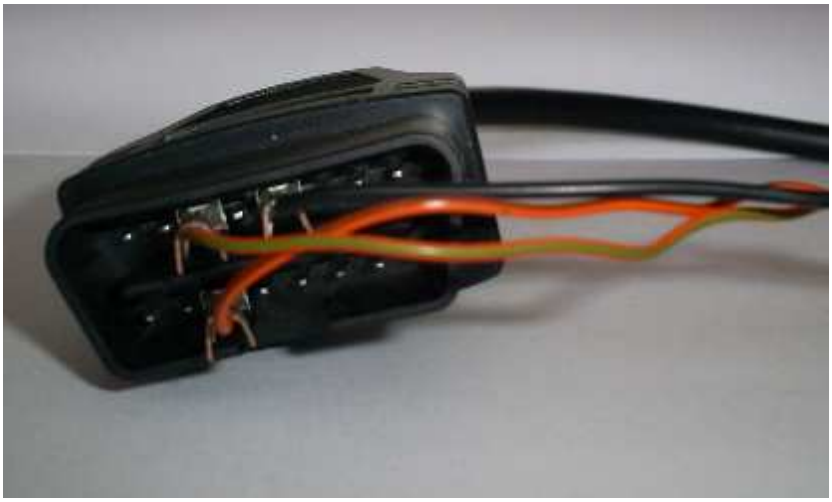
3.5.20Special function “ECU Exchange – Dump Tool”

Using this application you can change the EEPROM dump of an engine control unit, so that after it is programmed into an ECU, the ECU can be adapted to a vehicle.
You need to read both the EEPROM dump of the engine control unit that is currently in the vehicle (called in the application “active ECU”) and the EERPOM dump of the engine control unit with which you wish to replace it (called in the application “replacement ECU”).
After opening the application, load both dumps (using buttons “Load active ECU dump” and “Load replacement ECU dump”). Press “Change replacement ECU dump” to do the needed modifications in the replacement ECU dump. Press "Save replacement ECU dump" to save the modified dump into a new file, which you can program into the device after that.



3.5.21Special function “Door unlocking”

This function is dedicated to open the doors of the car when the car is in SAFE mode.
To use this function you will need to connect manually some PINs of the VAG Interface OBDII connector with cables to the wiring of the CAR.



So you've to find somewhere in the car the desired wires – orange with green (CAN-H) and orange with brown (CAN-L), and you've to connect them to OBDII connector PIN6 (CAN-H) and OBDI Connector PIN14 (CAN-L). Also you've to connect OBDII Connector PIN4 (Ground) to any metal part of the car.

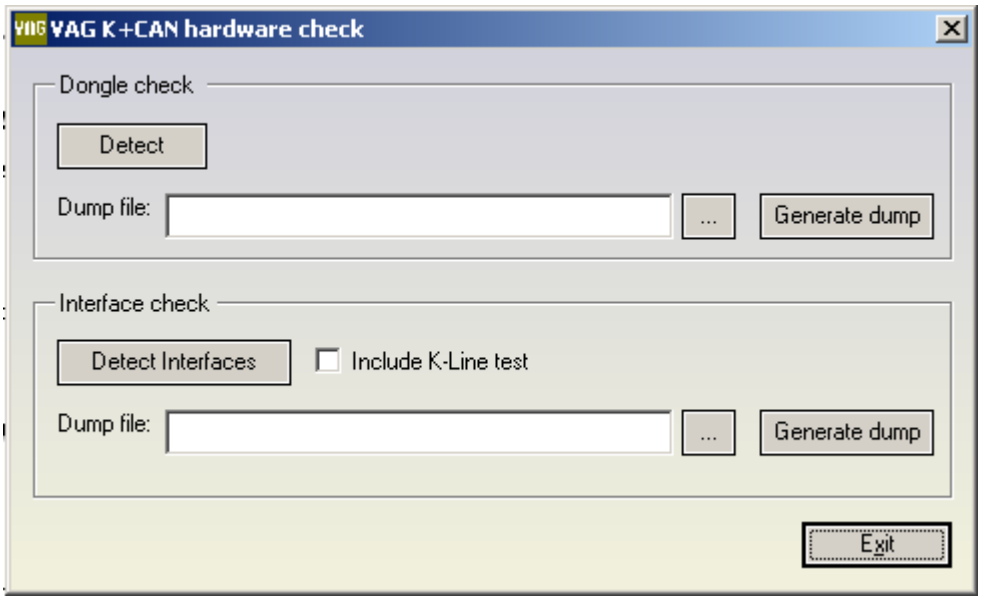
After you're ready you can call the “Unlock doors” special function. Following dialog will be displayed:

So for any of the desired model you've to press the appropriate button.

ATTENTION: In the most cases this only opens the doors. It doesn't disable the alarm!

4ABRITES VAG Check

The “ABRITES VAG Check” is a tool which performs self-diagnostic of the USB dongle and interface.



It has two sections:

-Dongle check – performs self-diagnostic of the USB dongle

-Interface check – performs self-diagnostic of the USB interface

Pressing the “Detect” button from the dongle section performs a detection whether the dongle is successfully read.
NOTE: This will not check the dongle data for inconsistency!

If you specify a dump file in the “dongle section” and press the “Generate dump” button, then all dongle data will be read, and this file can be examined from the producer. This file should be sent to the interface producer if there are problems with the interface, e.g. interface is not recognized, K-Line is not working, or if requested by by producer.

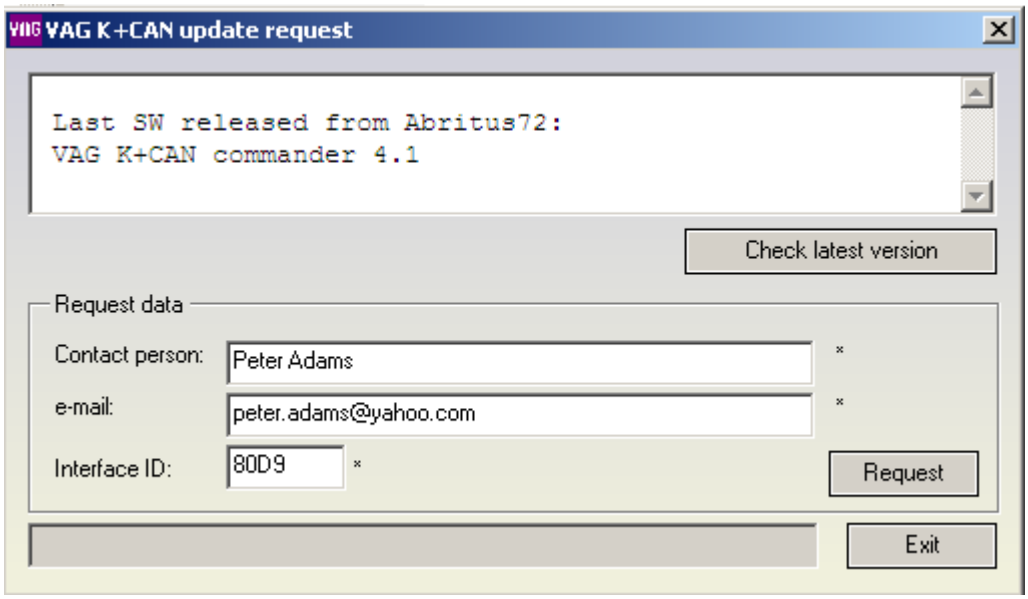
NOTE: If you get an error message “0x10001” while running the “ABRITES VAG Commander” please send the dongle dump to “support@abritus72.com”

In the “Interface section” there is a possibility to perform a detection of the interface – pressing the “Detect Interface” button checks for interface availability, firmware version and interface ID. You are able to perform also test of the K-Line, but this requires that the interface is connected to the OBDII since the K-Line requires 12V.

Also results from detection of the interface and K-Line test can be saved into a file if “Dump file” field is entered and “Generate dump” button is pressed. This dump file should be sent to the producer if there are problems with the interface recognition.

5ABRITES VAG Update Request

The “ABRITES VAG Update Request” tool is dedicated to inform you which is the latest version, which is released from the producer, and to allow you to request a compilation for your interface. The “ABRITES VAG Update Request” can be used also if you have problems when running the “ABRITES VAG Commander” as described in the “Troubleshooting” section.



Pressing “Check latest version” will connect through the Internet to the producer homepage and will return to you which is the latest released version.

If you want to receive this latest software, or if you have some problems as described in the “Troubleshooting” section, you should enter the “Request fields” and press the “Request” button.

NOTE: This requires that the dongle and the interface are connected to the PC. After the request is made a text file named “SW_Update_Req_xxxx.bin” is created, where “xxxx” is the number of your interface (2 or 4 digits). After the file is generated you have to send it manually to update@abritus72.com**.**

6TROUBLESHOOTING

Below you can find a list of typical problems and how to solve them:

Problem: When starting the “ABRITES VAG Commander” on the splash screen “**Interface NOT found**” is displayed

Solution:

-Please be sure that the USB interface drivers are installed properly. You can look at the device manager, the USB interface should appear as “USB Serial Port (COMxx)” where “xx” is the number of the port

-If the interface is recognized OK, then please try to unplug and plug it again into the USB slot and restart the “ABRITES VAG Commander”.

-If the interface is not recognized (the USB interface appear with yellow exclamation mark in the device manager), then you can try to solve the problem by uninstalling and reinstalling the USB interface drivers (see sections “Installing USB interface drivers” and “Uninstalling USB interface drivers”).

-If the problem is still present, you can try to set the used port manually as follows:

- oStart the “ABRITES VAG Commander”
- oPress the “Options” button
- oUncheck the “Autodetect” check-box and enter the number of the port from the device manager.
- oThe changes will take effect after restart of the “ABRITES VAG Commander”

NOTE: Please take into account that the used port will change when inserting the USB interface into different USB slots, so the manual setting of the port should be repeated in this case.

-If the problem is still present, please run the “ABRITES VAG Check” and try to auto-detect the interface and generate a dump from the interface. Report about the problem to Abritus72 Ltd. with the included interface dump file.

Problem: When starting the “ABRITES VAG Commander” on the splash screen neither “**Interface found**” nor “**Interface NOT found**” is displayed

Solution:

-Please try to unplug and plug the dongle and the USB interface again into the USB slot and restart the “ABRITES VAG Commander”.

-If the problem is still present, please run the “ABRITES VAG Update Request” and request an update of your software. Please be sure that the version of the “ABRITES VAG Update Request” is at least 1.1 (displayed in the title bar when “ABRITES VAG Update Request” is started). **Please specify in your mail what kind of problem you have when running the “ABRITES VAG Commander”.**

Problem: When starting the “ABRITES VAG Commander” the splash screen is displayed but the application freeze on this state for about 1-2 minutes. After that “Interface found” is displayed and application functions normally.

Solution: Probably there are some bluetooth devices installed on the PC. Please try to deactivate them temporally.

Problem: When starting the “ABRITES VAG Commander” a message “Error code: 0x10001. Please contact ‘support@abritus72.com’ with the Error code in the subject”
Solution:

-Please run the “ABRITES VAG Update Request” and request an update of your software. Please be sure that the version of the “ABRITES VAG Update Request” is at least 1.1 (displayed in the title bar when “ABRITES VAG Update Request” is started). **Please specify in your mail what kind of problem you have when running the “ABRITES VAG Commander”.**

Problem: When starting the “ABRITES VAG Commander” a message “Error code: 0x10002. Please contact ‘support@abritus72.com’ with the Error code in the subject”
Solution:
Probably the dongle is not inserted into the USB slot or it is not recognized in the device manager. You can check in the device manager whether it is recognized. It should appear as “Matrix USB-Chip” in the “Universal serial bus controllers” section if your tool is buy before December 2007, or as “HID-compliant device” in the “Human Interface Devices” if it is buy after December 2007.

Problem: When starting the “ABRITES VAG Commander” a message “Error code: 0x10003. Please contact ‘support@abritus72.com’ with the Error code in the subject”
Solution:
Probably SW dedicated for other interface was run on your interface. Please run the “ABRITES VAG Check” tool and prepare a dump file of the dongle. Then send this dump file to “support@abritus72.com”

Problem: When starting the “ABRITES VAG Commander” a message “Error code: 0x10004. Please contact ‘support@abritus72.com’ with the Error code in the subject”
Solution:
Please run the “ABRITES VAG Check” tool and prepare a dump file of the dongle. Then send this dump file to “support@abritus72.com”

Problem: When starting the “ABRITES VAG Commander” on the splash screen “**Interface found**” is displayed, but is not possible to connect to device (especially through K-Line)
Solution:
Make sure that if you run the “ABRITES VAG Commander” from a shortcut the “working folder” is set to the folder where the “ABRITES VAG Commander” executable is placed.

Problem: The device connects sometimes to the device under K-Line, and sometimes not.
Solution:
Try to increase/decrease the “Wakeup echo delay” timing parameter.

Problem: The connection with the device under K-Line is unstable.
Solution:
Try to increase/decrease the “Inter byte time”, “Time between messages” and “Communication echo delay” parameters.

Problem: How to recognize whether the instrument cluster is A4 RB4 or A4 RB4 Crypto.

Solution: If the instrument is not crypt (this means it is RB4) the immobilizer number (14 ASCII symbols) is found on addresses 0x00, 0x100 and 0x200. If the immobilizer number is placed there, then the instrument is not crypt, otherwise

Problem: After reading the A4 RB8 instrument, the instrument displays “LO x-x” instead the odometer.
Solution: Read the RB8 instrument EEPROM, and change the immobilizer status to 6.

Problem: It is not possible to connect to a device through the K-Line, since it is possible to connect to it with other diagnostic tools.
Solution: Try to change the baud sequence to 9600/10472 from the options dialog.

Problem: Cannot read Motometer instruments.
Solution: Download and replace file www.abritus72.com/mmdata.bin into the ABRITES VAG Commander folder.

Problem: Some device cannot be read or unexpected behavior was found
Solution: Please enable the logging as described in chapter 3.1.5 and send to use the corresponding log-file.

7 APPENDIX

7.1 Programming instrument clusters from Magneti Marelli (K-line diagnostic link)

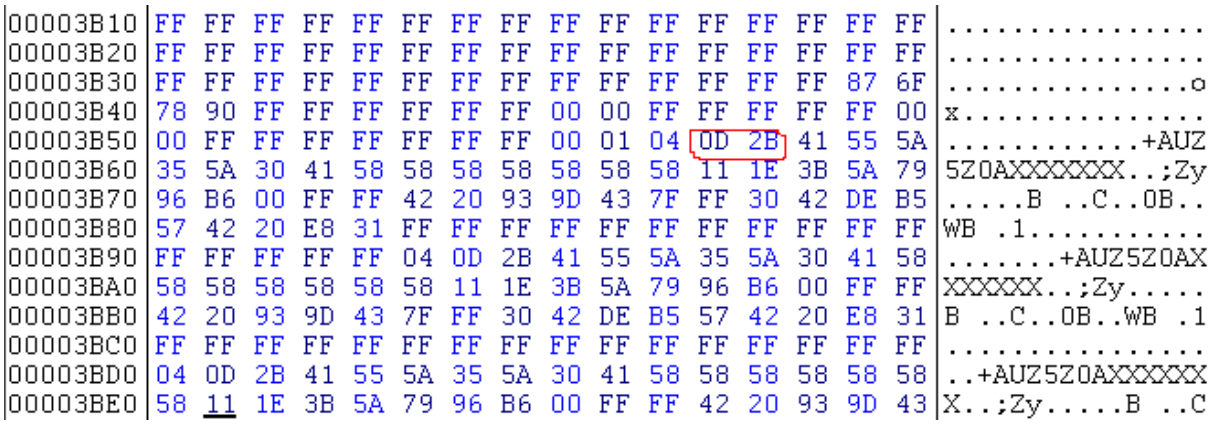
7.1.1 Instrument cluster from Audi A3, Audi A6, Audi TT, VW New Beetle

Access to these type is possible using the types “Instrument Cluster Magneti Marelli - Direct 1996-2000” and “Instrument Cluster Magneti Marelli - Direct 2000+” depending of the production year of the car. So you have to select the one of the both types and then try to read the EEPROM.

Please note that the threshold of the year 2000 is not absolute, some models are continue to be equipped with older instruments even if they are after year 2000. So the best way is to choose first the “Instrument Cluster Magneti Marelli - Direct 1996-2000”, if not succeeded you have to make the ignition OFF and again ON, and to try with the “Instrument Cluster Magneti Marelli - Direct 2000+” type.

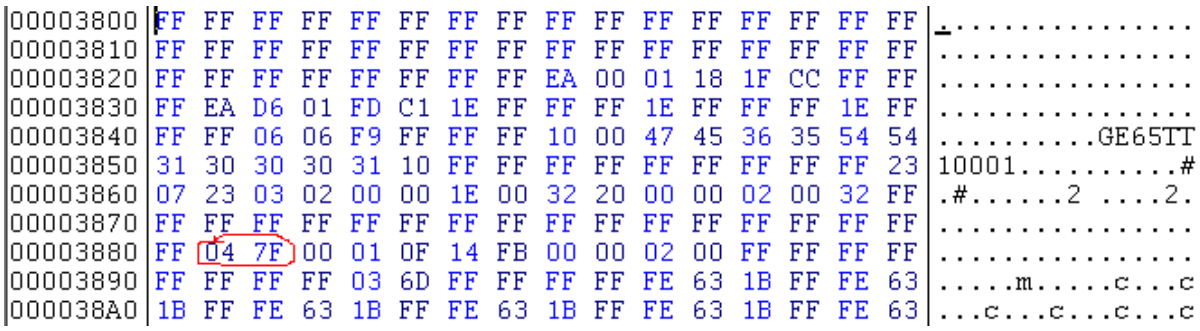
If succeeded to read, the PIN code and odometer are automatically recognized and displayed for Magneti Marelli direct types, but in case of error you can do it by yourself using the description below:

1. In the EEPROM search for the Immobilizer number (AUZ…, WAUZ…). If the immobilizer number is found, then the login is the two bytes preceding the immobilizer number.



E.g. on the picture above the immobilizer number is AUZ5Z0AXXXXXXX and the login is “0D2B” in hexadecimal or 3371 in decimal

2.If the immobilizer number is not present, then the login is found somewhere in the region 0x0070-0x009F in the EEPROM. Starting from 0x0070 in the EEPROM (i.e. 0x3870 in the memory area) there should be a long sequence of 0xFF (e.g. about 7-8 bytes of 0xFF). The first two bytes which are not 0xFF should be the login.

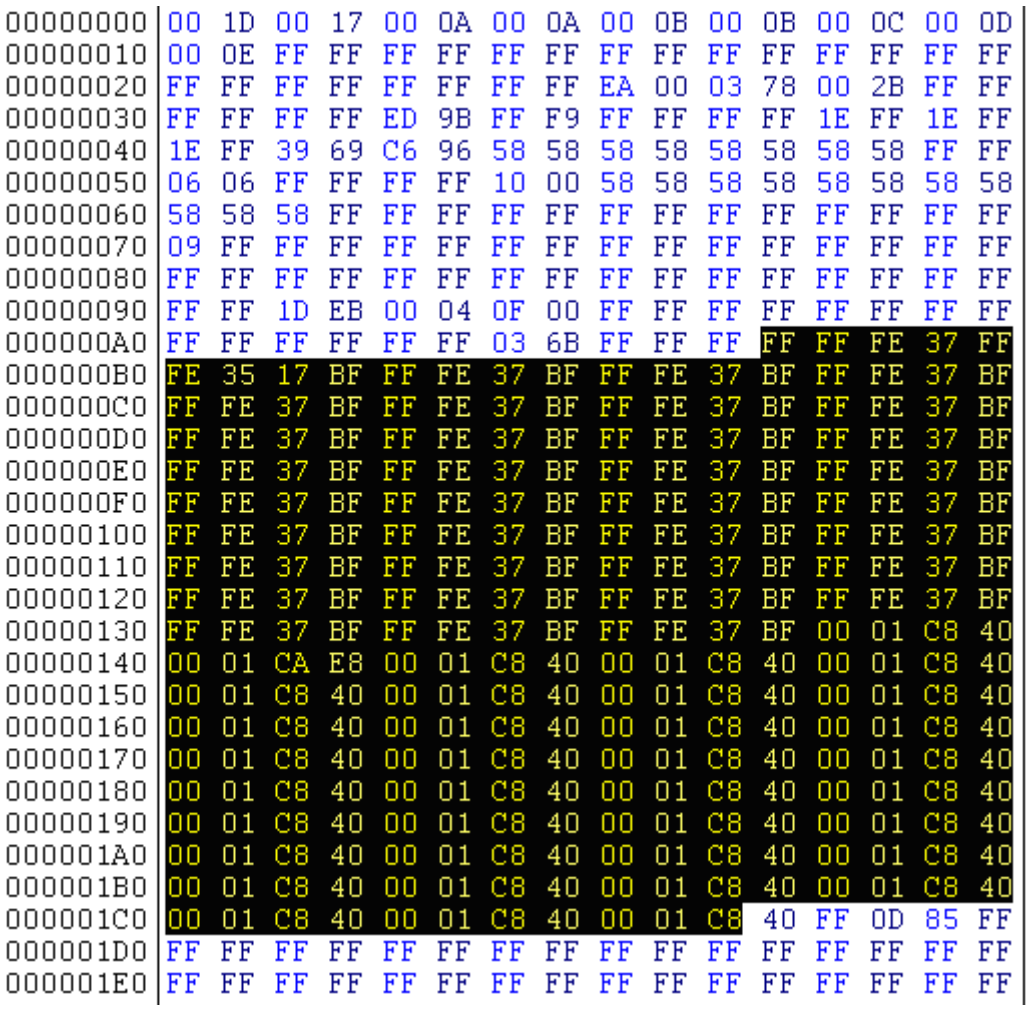

00003800 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00003810 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00003820 FF FF FF FF FF FF FF FF EA 00 01 18 1F CC FF FF
00003830 FF EA D6 01 FD C1 1E FF FF FF 1E FF FF FF 1E FF
00003840 FF FF 06 06 F9 FF FF FF 10 00 47 45 36 35 54 54
00003850 31 30 30 30 31 10 FF FF FF FF FF FF FF FF FF 23
00003860 07 23 03 02 00 00 1E 00 32 20 00 00 02 00 32 FF
00003870 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00003880 FF 04 7F 00 01 0F 14 FB 00 00 02 00 FF FF FF FF
00003890 FF FF FF FF 03 6D FF FF FF FF FE 63 1B FF FE 63
000038A0 1B FF FE 63 1B FF FE 63 1B FF FE 63 1B FF FE 63

E.g. on the picture above starting from address 0x0080 of the EEPROM there are 17 bytes with 0xFF, then follows the login which is 0x047F in hexadecimal or 1151 in decimal.

The odometer consists of two blocks – usually 0x90 bytes with the inverted odometer, followed by 0x90 bytes with the real odometer, but this may vary (e.g. blocks with 0x98 bytes instead 0x90, or first is the real value and then the inverted). So if the odometer is displayed correct, you can try to change it. But please be always sure that you change the odometer only after it is displayed correct (only small deviation is possible).

7.1.2 Instrument cluster from *Audi TT-K*

-First try to access the instrument as one of the "Magnet Marelli direct" types (especially for year 2000+) and if succeeded proceed as described above
-If not succeeded select type “Magneti Marelli - Shadow 3 (TT)” and read EEPROM. Currently for the software versions we know the login can be located as described above, and the odometer starts from address 0xAA to address 0x1C8 (marked in the picture below).


00000000 00 1D 00 17 00 0A 00 0A 00 0B 00 0B 00 0C 00 0D
00000010 00 0E FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000020 FF FF FF FF FF FF FF FF EA 00 03 78 00 2B FF FF
00000030 FF FF FF FF ED 9B FF F9 FF FF FF FF 1E FF 1E FF
00000040 1E FF 39 69 C6 96 58 58 58 58 58 58 58 58 FF FF
00000050 06 06 FF FF FF FF 10 00 58 58 58 58 58 58 58 58
00000060 58 58 58 FF FF FF FF FF FF FF FF FF FF FF FF FF
00000070 09 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000080 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000090 FF FF 1D EB 00 04 0F 00 FF FF FF FF FF FF FF FF
000000A0 FF FF FF FF FF FF 03 6B FF FF FF FF FF FE 37 FF
000000B0 FE 35 17 BF FF FE 37 BF FF FE 37 BF FF FE 37 BF
000000C0 FF FE 37 BF FF FE 37 BF FF FE 37 BF FF FE 37 BF
000000D0 FF FE 37 BF FF FE 37 BF FF FE 37 BF FF FE 37 BF
000000E0 FF FE 37 BF FF FE 37 BF FF FE 37 BF FF FE 37 BF
000000F0 FF FE 37 BF FF FE 37 BF FF FE 37 BF FF FE 37 BF
00000100 FF FE 37 BF FF FE 37 BF FF FE 37 BF FF FE 37 BF
00000110 FF FE 37 BF FF FE 37 BF FF FE 37 BF FF FE 37 BF
00000120 FF FE 37 BF FF FE 37 BF FF FE 37 BF FF FE 37 BF
00000130 FF FE 37 BF FF FE 37 BF FF FE 37 BF 00 01 C8 40
00000140 00 01 CA E8 00 01 C8 40 00 01 C8 40 00 01 C8 40
00000150 00 01 C8 40 00 01 C8 40 00 01 C8 40 00 01 C8 40
00000160 00 01 C8 40 00 01 C8 40 00 01 C8 40 00 01 C8 40
00000170 00 01 C8 40 00 01 C8 40 00 01 C8 40 00 01 C8 40
00000180 00 01 C8 40 00 01 C8 40 00 01 C8 40 00 01 C8 40
00000190 00 01 C8 40 00 01 C8 40 00 01 C8 40 00 01 C8 40
000001A0 00 01 C8 40 00 01 C8 40 00 01 C8 40 00 01 C8 40
000001B0 00 01 C8 40 00 01 C8 40 00 01 C8 40 00 01 C8 40
000001C0 00 01 C8 40 00 01 C8 40 00 01 C8 40 FF 0D 85 FF
000001D0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000001E0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF

7.1.3 VW Passat - usually these Instruments are before year 1998

-First try to access the instrument as one of the "Magnet Marelli direct" types (especially for year 2000+) and if succeeded proceed as described above
-If not succeeded select type "Magneti Marelli - Shadow 2 (Passat)” and read EEPROM. The login is displayed; odometer is displayed as “0”, but can be changed. When the "Change odometer" button is pressed a dialog appears, where the current and the new odometer values should be entered.

7.1.4 VW New Beetle

-First try to access the instrument as one of the "Magnet Marelli direct" types (especially for year 2000+) and if succeeded proceed as described above
-If not succeeded select type "Magneti Marelli - Shadow 1” and read EEPROM. The login is not displayed. The odometer is displayed as “0”, but can be changed. When the "Change odometer" button is pressed a dialog appears, where the current and the new odometer values should be entered.

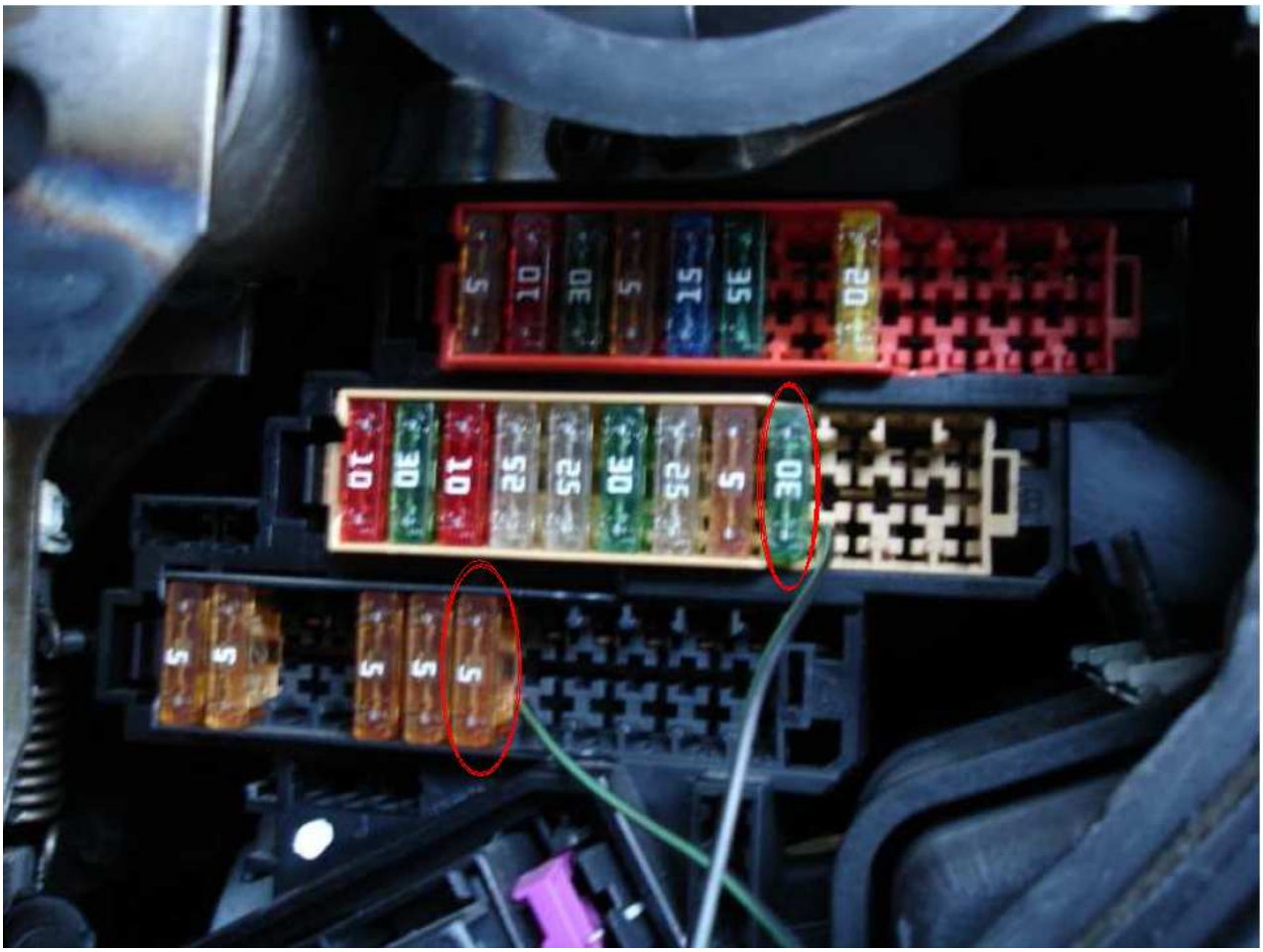
7.2Porsche Cayenne/VW Touareg gasoline engines – ECU wakeup fuses

Porsche Cayenne – fusebox

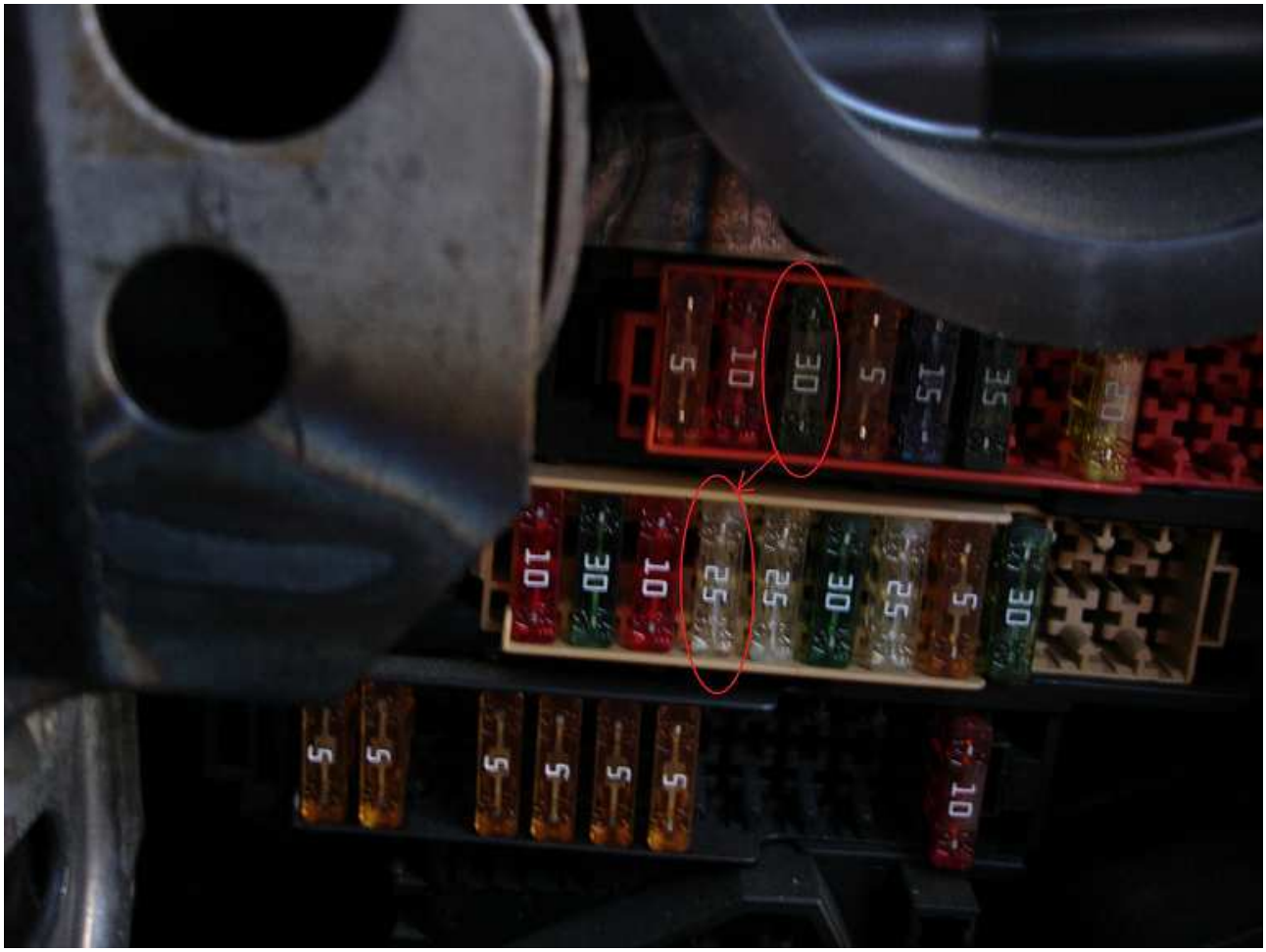
7.3Audi A8 fusebox (passenger side – wakeup ECU):

7.4Audi Q7

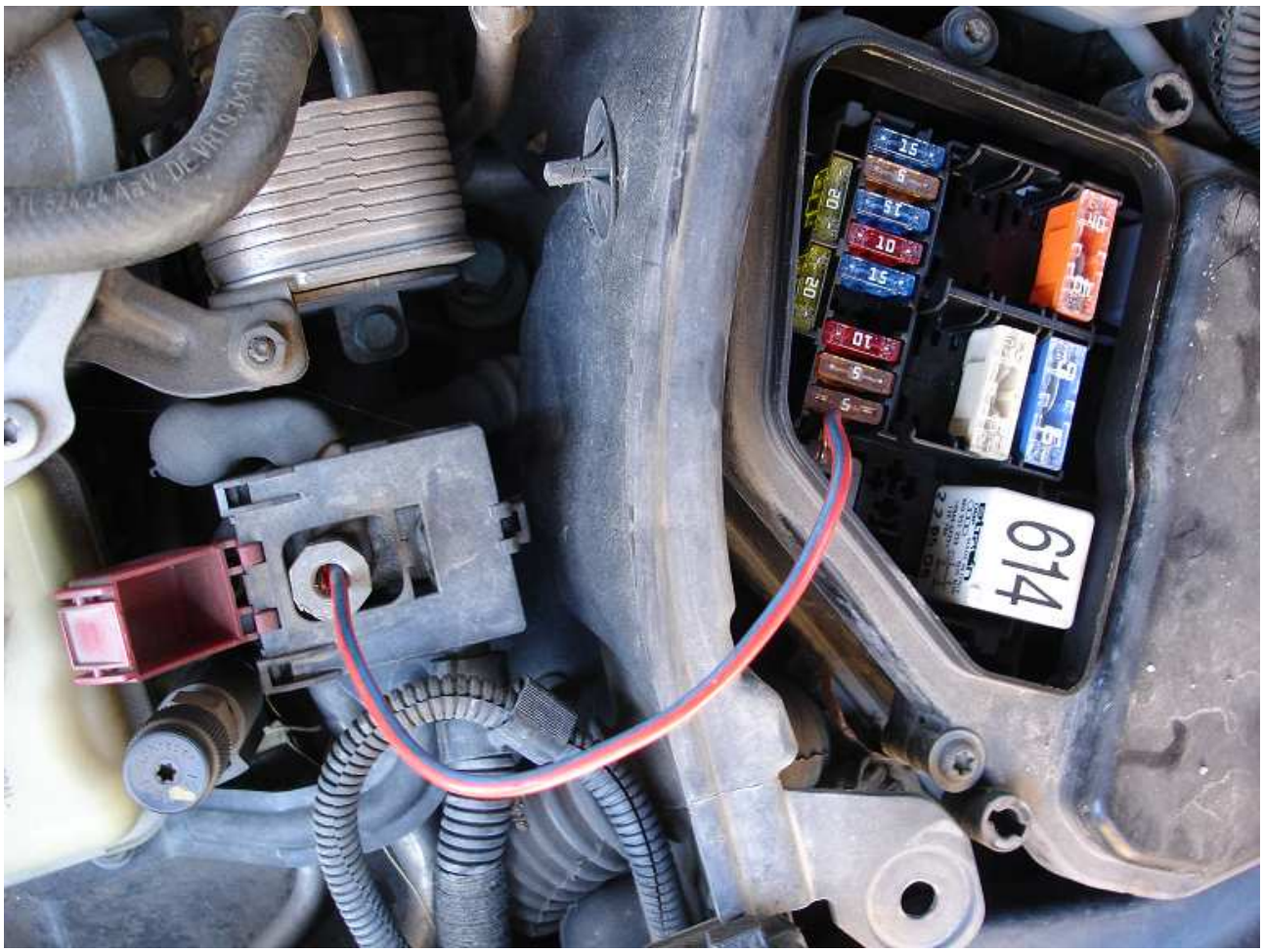
To get communication with the ECU you need to short the fuses as shown on the picture below:



If not succeeded to communicate with the ECU then you should try as on the picture below:



If you're still not able to get communication with the ECU it is possible to make short of the external fusebox (it is found under the front cover, where also the engine is). You've to short the first 5A fuse with the +12V connection as shown on the picture. Please pay attention that you've to use a bigger cable because if you use a small cable it can become hot.



7.5Audi A6/RS6 (except 3.2L)

To get communication with the ECU you need to short the fuses as shown on the picture below:

7.6Audi A6 3.2L FSI

To get communication with the ECU you need to short the fuses as shown on the picture below:

7.7VAG K+CAN Commander key-learning procedures

Model	Year	Solution	Programmer need-ed	Transponder/ Key	Key Learnig proce-dure
Audi A2	all	OBD-K	not needed	TP08	Procedure 1
Audi A3	-2003	OBD-K	not needed	TP08	Procedure 1
Audi A3	2003-2007	OBD-CAN	Key programmer	TP25/TA5	Procedure 4
Audi A3	2007+	OBD-CAN	Key programmer	TA5	Procedure 5
Audi A4	-2003	OBD-K	not needed	TP08	Procedure 1
Audi A4	2003-2008	OBD-K	Key programmer	TA25	Procedure 6
Audi A4	2008+				n.a
Audi A5/S5					n.a
Audi A6	-2004	OBD-K	not needed	TP08	Procedure 1
Audi A6/RS6	2004+	OBD-CAN	Abrites programmer	Blank key for Q7/A6	Procedure 9
Audi Allroad	-2004	OBD-K	not needed	TP08	Procedure 1
Audi Allroad	2004+	OBD-CAN	Abrites programmer	Blank key for Q7/A6	Procedure 9

Audi Q7	2004+	OBD-CAN	Abrites programmer	Blank key for Q7/A6	Procedure 9
Audi A8	-2002	OBD-K	not needed	TP08	Procedure 1
Audi A8	2002+	OBD-CAN	HITAG-2/Key pro-grammer	PCF7936 or key	Procedure 7
Audi A8	2007+		HITAG-2/Key pro-grammer	PCF7936 or key	Procedure 8
Audi R8					n.a
Audi TT	-2005	OBD-K	yes	TP08	Procedure 1
Audi TT	2007+	OBD-CAN	Key programmer	TA5	Procedure 3.2
VW Golf5	-08/2006	OBD-CAN	not needed	TP23/TA3	Procedure 2
VW Golf5	08/2006-2008	OBD-CAN	Key programmer	TA3	Procedure 3.1
VW Golf5	2008+	OBD-CAN	Key programmer	TA3	Procedure 3.2
Seat Alhambra	2000+	OBD-K	not needed	TP22/TA2	Procedure 1
Seat Altea	-08/2006	OBD-CAN	not needed	TP22/TA2	Procedure 2
Seat Altea	08/2006-2008	OBD-CAN	Key programmer	TA2	Procedure 3.1
Seat Altea	2008+	OBD-CAN	Key programmer	TA2	Procedure 3.2
Seat Arosa	1998-2004	OBD-K	not needed	TP08	Procedure 1
Seat Cordoba	1996-2004	OBD-K	not needed	TP08	Procedure 1
Seat Ibiza	-2007	OBD-K	not needed	TP08	Procedure 1
Seat Leon	-2003	OBD-K	not needed	TP08	Procedure 1
Seat Leon	-08/2006	OBD-CAN	not needed	TP22/TA2	Procedure 2
Seat Leon	08/2006-2008	OBD-CAN	Key programmer	TA2	Procedure 3.1
Seat Leon	2008+	OBD-CAN	Key programmer	TA2	Procedure 3.2
Seat Toledo	-2003	OBD-K	not needed	TP08	Procedure 1
Seat Toledo	-08/2006	OBD-CAN	not needed	TP22/TA2	Procedure 2
Seat Toledo	08/2006-2008	OBD-CAN	Key programmer	TA2	Procedure 3.1
Seat Toledo	2008+	OBD-CAN	Key programmer	TA2	Procedure 3.2
Skoda Octavia	1997-2003	OBD-K	not needed	TP08	Procedure 1
Skoda Octavia II	-08/2006	OBD-CAN	not needed	TP24/TA4	Procedure 2
Skoda Octavia II	08/2006-2008	OBD-CAN	Key programmer	TA4	Procedure 3.1
Skoda Octavia II	2008+	OBD-CAN	Key programmer	TA4	Procedure 3.2
Skoda Scout	-08/2006	OBD-CAN	not needed	TP24/TA4	Procedure 2
Skoda Scout	08/2006-2008	OBD-CAN	Key programmer	TA4	Procedure 3.1
Skoda Scout	2008+	OBD-CAN	Key programmer	TA4	Procedure 3.2
Skoda Roomster	2007+	OBD-K	not needed	TP08	Procedure 1
Skoda Fabia	2000+	OBD-K	not needed	TP08	Procedure 1

Skoda Superb	-01/2007	OBD-K	not needed	TP08	Procedure 1
VW Bora BOSCH	1997+	OBD-K	not needed	TP08	Procedure 1
VW Bora Motometer	1997+	OBD-K	not needed	TP08	Procedure 1
VW Caddy VDO	2004-09/2006	OBD-CAN	not needed	TP23/TA3	Procedure 2
VW Caddy	-2008	OBD-CAN	not needed	TP23/TA3	Procedure 2
VW EOS	-08/2006	OBD-CAN	not needed	TP23/TA3	Procedure 2
VW EOS	08/2006-2008	OBD-CAN	Key programmer	TA3	Procedure 3.1
VW EOS	2008+	OBD-CAN	Key programmer	TA3	Procedure 3.2
VW Golf 4 BOSCH	1997+	OBD-K	not needed	TP08	Procedure 1
VW Golf 4 Motometer	1997+	OBD-K	not needed	TP08	Procedure 1
VW Golf 4 VDO	1997+	OBD-K	not needed	TP08	Procedure 1
VW Cross Golf	-08/2006	OBD-CAN	not needed	TP23/TA3	Procedure 2
VW Cross Golf	08/2006-2008	OBD-CAN	Key programmer	TA3	Procedure 3.1
VW Cross Golf	2008+	OBD-CAN	Key programmer	TA3	Procedure 3.2
VW Jetta	-08/2006	OBD-CAN	not needed	TP23/TA3	Procedure 2
VW Jetta	08/2006-2008	OBD-CAN	Key programmer	TA3	Procedure 3.1
VW Jetta	2008+	OBD-CAN	Key programmer	TA3	Procedure 3.2
VW Multivan	-2007	OBD-K	not needed	TP08	Procedure 2
VW Passat B4 Mototometer	1996+	OBD-K	not needed	TP08	Procedure 1
VW Passat B4 VDO	1997+	OBD-K	not needed	TP08	Procedure 1
VW Passat B5 VDO	2001+	OBD-K	not needed	TP08	Procedure 1
VW Passat B5 Mototometer	2001+	OBD-K	not needed	TP08	Procedure 1
VW Passat B6	2005+	OBD-CAN	Key programmer	TA3	Procedure 3.2
VW Phaeton	-2007	OBD	HITAG-2/Key programmer	PCF7936 or key	Procedure 7
VW Phaeton	-2008	OBD	HITAG-2/Key programmer	PCF7936 or key	Procedure 8
VW Polo VDO	2000+	OBD-K	not needed	TP08	Procedure 1
VW T4 Motometer	1998+	OBD-K	not needed	TP08	Procedure 1
VW T4 VDO	1998+	OBD-K	not needed	TP08	Procedure 1
VW T5	2002+	OBD-K	not needed	TP08	Procedure 1
VW Touareg	-08/2007	OBD-K	HITAG-2/Key programmer	PCF7936 or key	Procedure 7
VW Touareg	08/2007+	OBD-CAN	HITAG-2/Key programmer	PCF7936 or key	Procedure 8
VW Touaran	-08/2006	OBD-CAN	not needed	TP23/TA3	Procedure 2
VW Touaran	08/2006-2008	OBD-CAN	Key programmer	TA3	Procedure 3.1

VW Touaran	2008+	OBD-CAN	Key programmer	TA3	Procedure 3.2
Porsche Cayenne	-2007	OBD-K	HITAG-2/Key programmer	PCF7936 or key	Procedure 7
Porsche Cayenne	2007+	OBD-CAN	HITAG-2/Key programmer	PCF7936 or key	Procedure 8
Bentley Continental	-2007	OBD-K	HITAG-2/Key programmer	PCF7936 or key	Procedure 7
Bentley Continental	2007+	OBD-CAN	HITAG-2/Key programmer	PCF7936 or key	Procedure 8

7.8Dump tool special function

The dump tool receives as input a dump file from the corresponding unit (input dump is loaded with the “Load dump” button). The dump file may have been read either via OBDII or with a programmer (especially for units where reading via OBDII is not possible). As output the dump tool displays some data extracted from the input file and/or makes some modifications to the input data. If any modifications were made (for some sub-functions there are no modifications made, only data are visualized) the user has to write the modified dump to a desired file (with the “Save dump” button), and then this modified dump should be saved back to the device via OBDII or with a programmer.

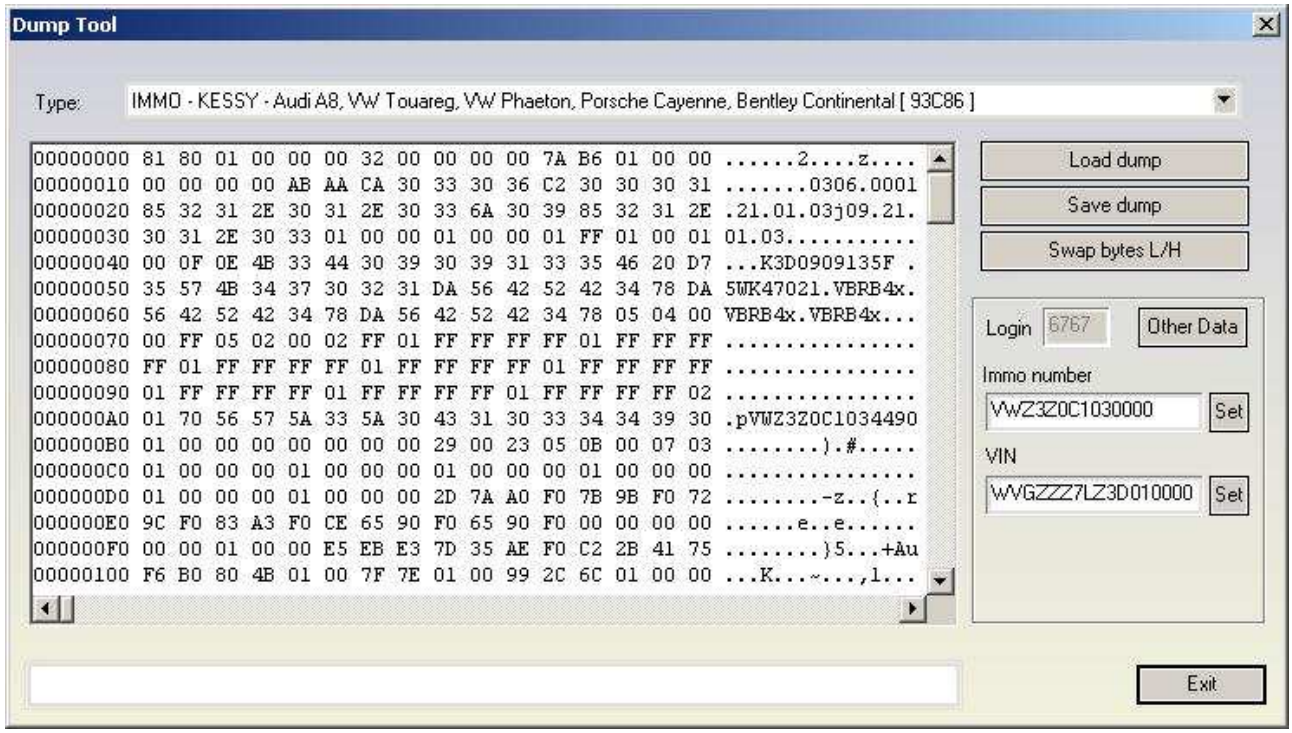
If data are read/write with a programmer the user must take care to ensure that the proper byte order is used. Because most of the programmers are reading the data on 16bit words, the byte order in the dump depends on the used programmer – some programmers are producing dumps starting with the least significant byte, and some are producing dumps starting the most significant byte. This means that for the same unit two different programmers can produce different dumps. Normally the software tries to autodetect the byte order of the dump, but if it doesn't succeed, then you may need to use the “Swap bytes” button. This buttons changes alternatively the byte order into the dump. So if after loading the dump file into the dump tool data cannot be extracted or modified, or the extracted data are not valid (e.g. displayed PIN is not accepted from the car), please try to swap bytes to get result. For some functions the swapping is made automatically (for example the decoding of the Kessy), but for some function the user has to made this manually.

A more detailed description of the most important functions follows below:

- **IMMO - KESSY - Audi A8, VW Touareg, VW Phaeton, Porsche Cayenne, Bentley Continental [93C86]**

Required license: AN003

This function is used to extract the security code from the Kessy module (this module is used in Audi A8, VW Touareg, VW Phaeton, Porsche Cayenne and Bentley Continental). The function also displays the learned keys and visualize/change the immobilizer and VIN numbers.

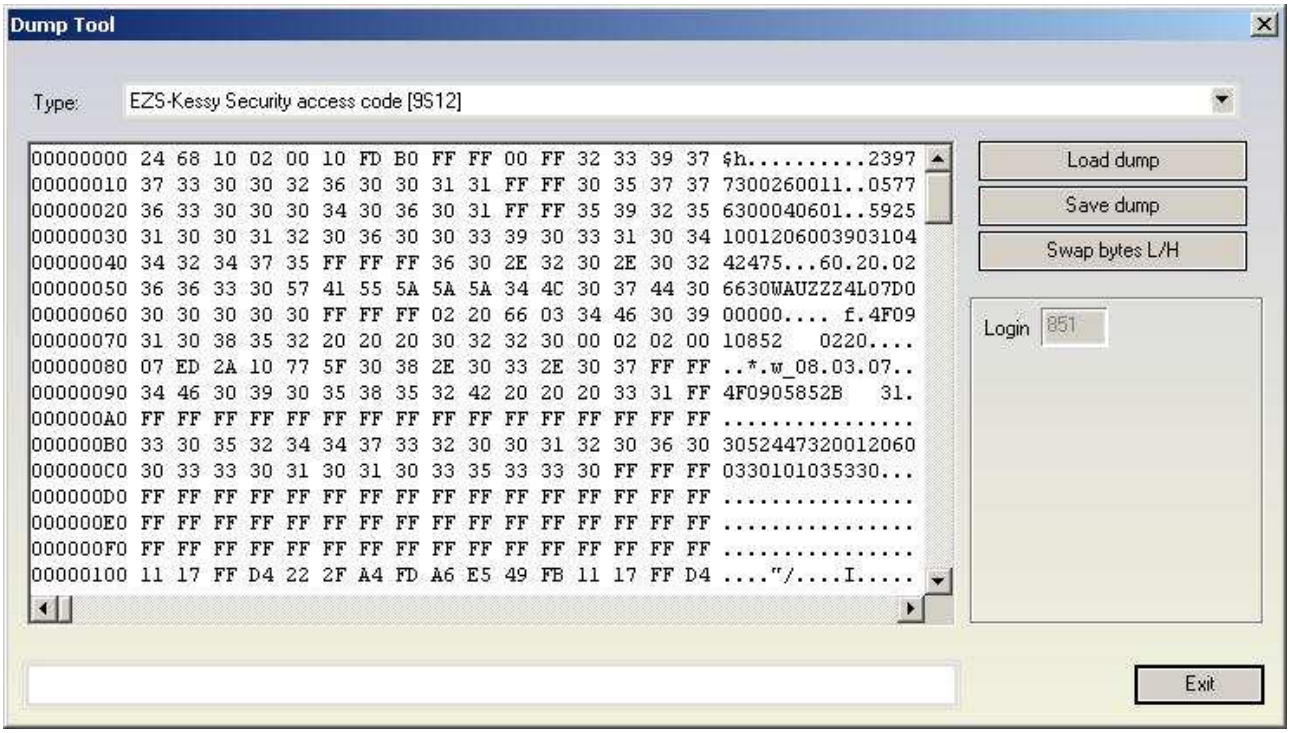


Pressing the “other data” displays the learned keys and also allows changing the immobilizer status (on some models changing the immobilizer status is used to put the Kessy e.g. into deliver condition).

-**EZS-Kessy Security access code [9S12]**

Required license: AN003

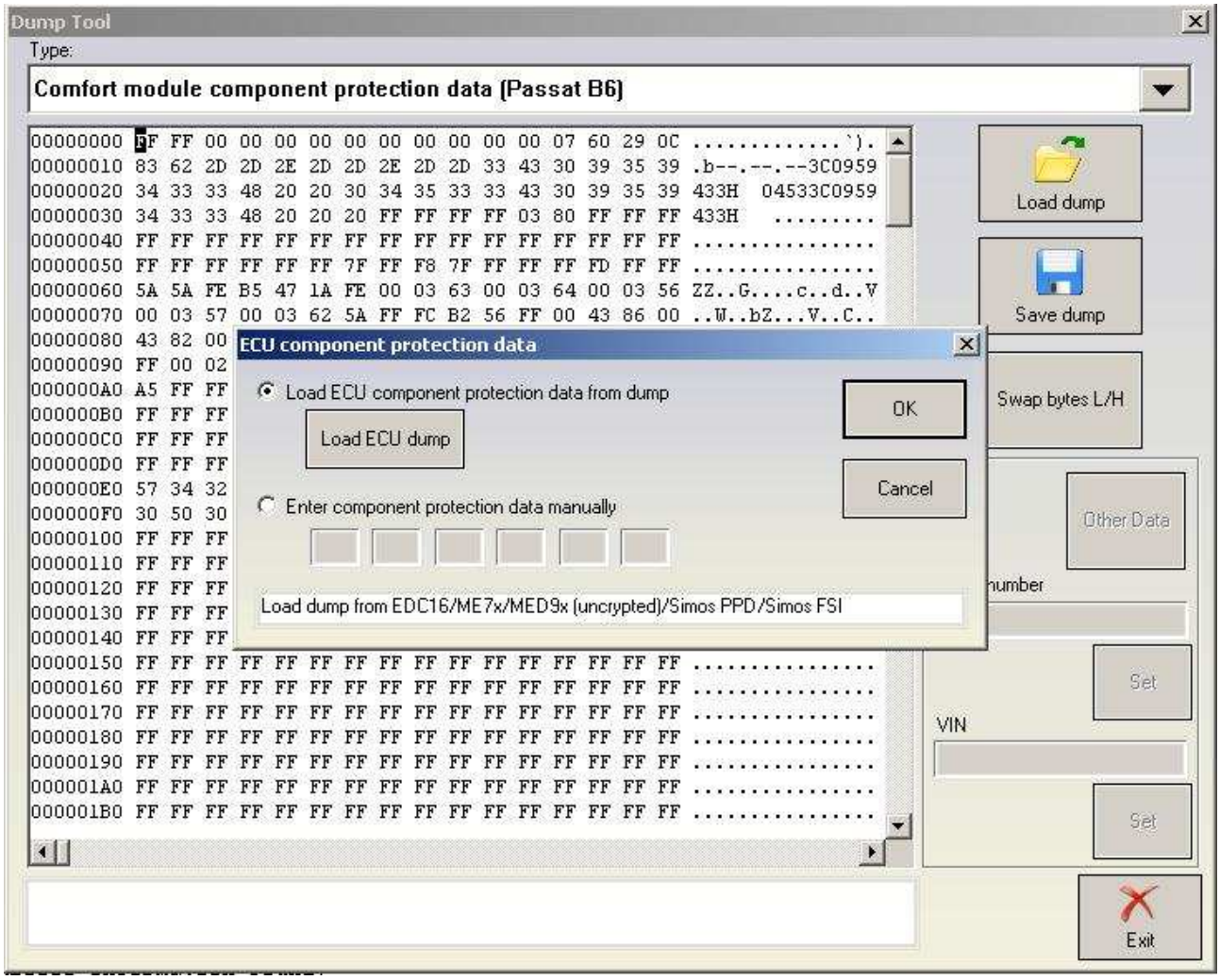
This function is used to extract the security access code from the EZS-Kessy. The EEPROM of the EZS-Kessy is found inside the microcontroller (Motorola HC9S12 family) and is typically read with a programmer, for some older version of the EZS-Kessy (till V2.0.2 of the EZS-Kessy) is also possible to be read by OBDII.



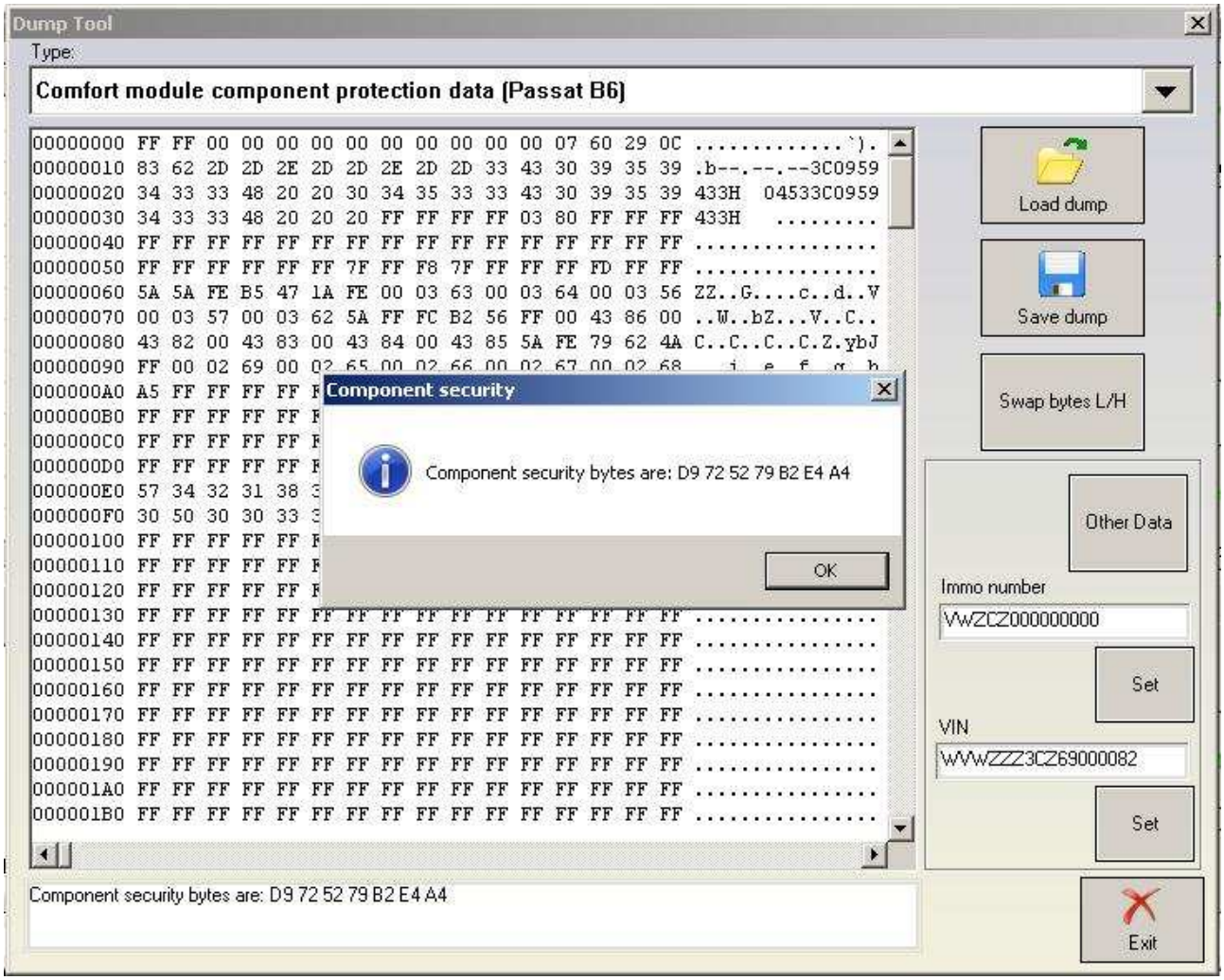
-**Comfort module component protection data (Passat B6)**

Required license: AN009

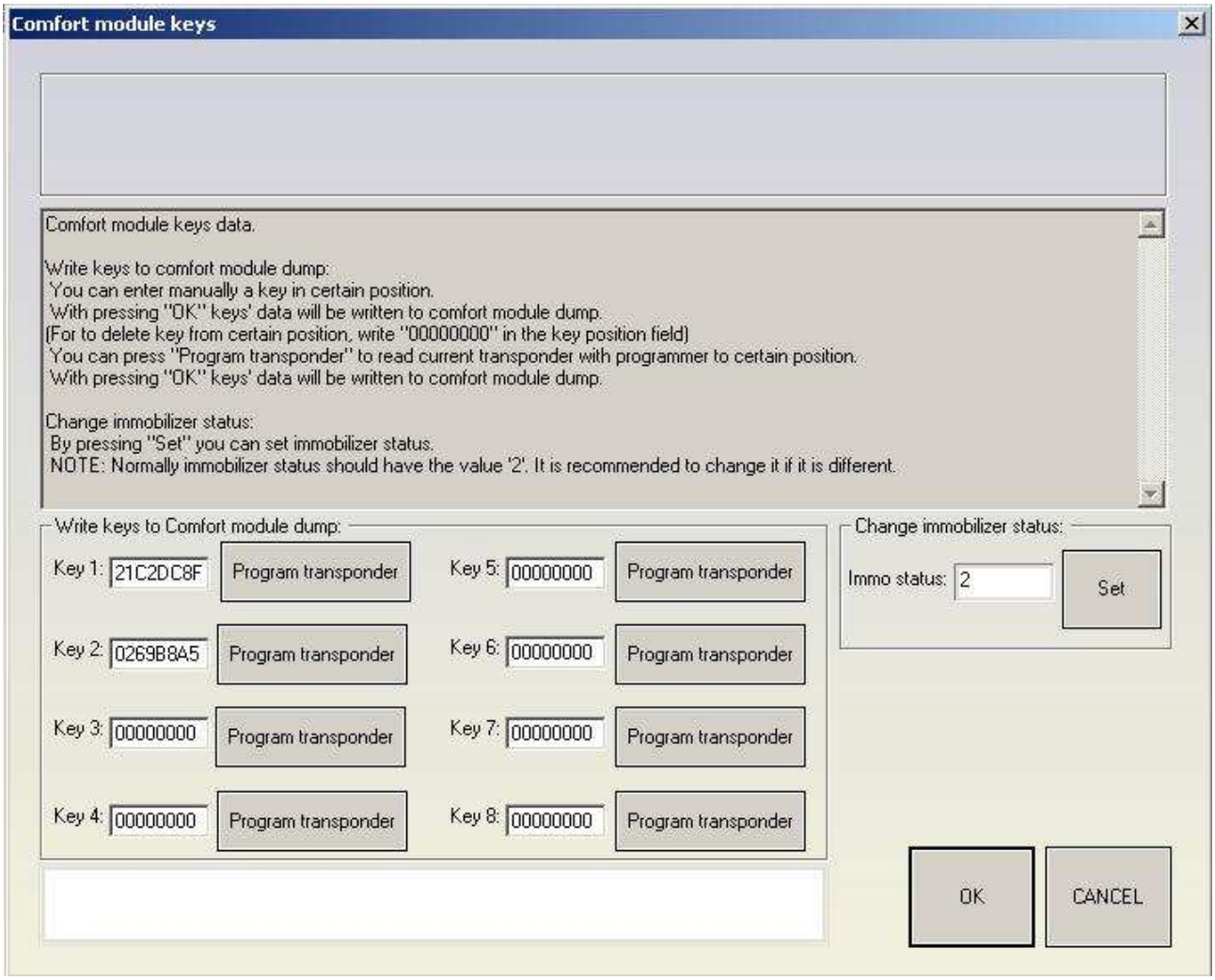
This function is used to extract the 7bytes of the component protection data for Passat B6. This function requires a dump file from the comfort module, and the six bytes of the component protection bytes which are always found in the engine control unit. So you need to load the dump of the comfort module and then a dialog is displayed where you can put the six bytes of the component protection manually or you can directly load the ECU dump too. The tool accepts an ECU dump from EDC16, PPD1x, MED9x and ME7x ECUs.



The function also visualize/change the immobilizer and VIN numbers.



Pressing the “other data” displays the learned keys and allows several operations:
–if a programmer has been recognized, allows to read current transponder's data, add it to the dump and if transponder's type is appropriate allows to program it as dealer key
–allows to change the immobilizer status (on some models changing the immobilizer status is used to put the Comfort module e.g. into deliver condition).

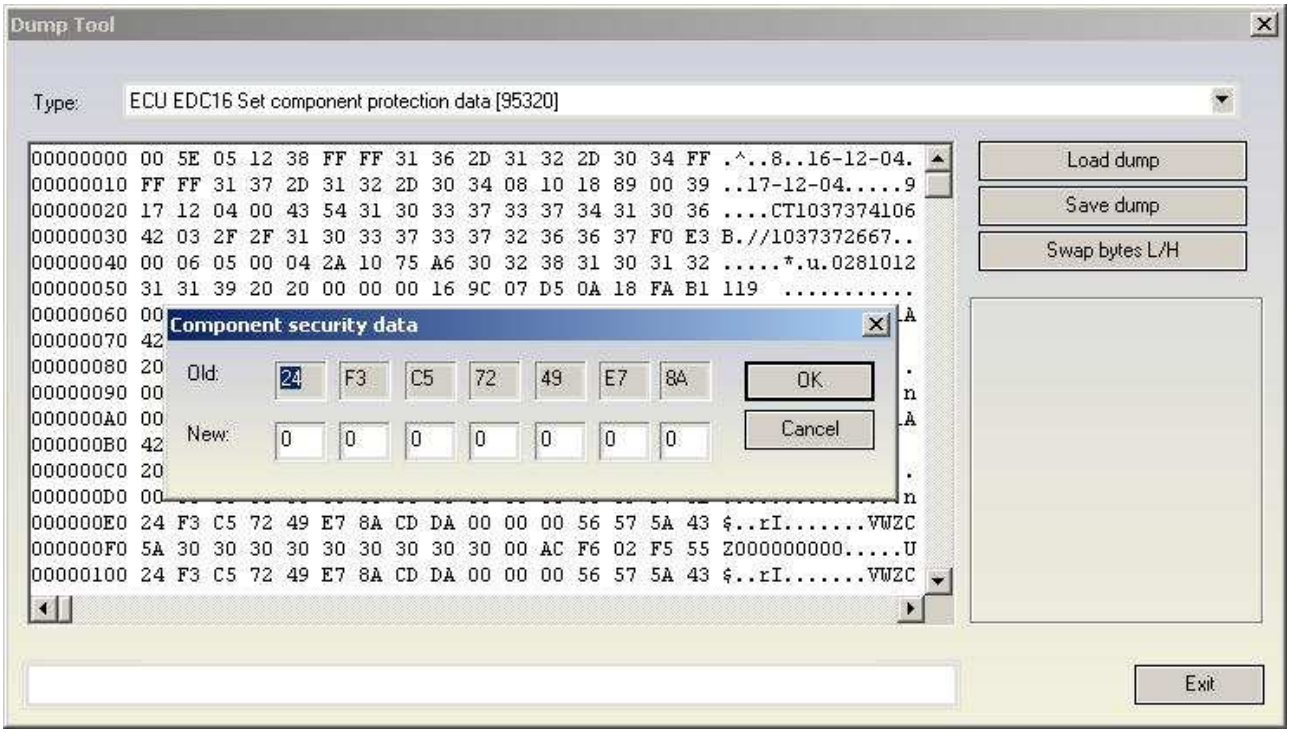

Comfort module keys
Comfort module keys data.
Write keys to comfort module dump:
You can enter manually a key in certain position.
With pressing "OK" keys' data will be written to comfort module dump.
(For to delete key from certain position, write "00000000" in the key position field)
You can press "Program transponder" to read current transponder with programmer to certain position.
With pressing "OK" keys' data will be written to comfort module dump.
Change immobilizer status:
By pressing "Set" you can set immobilizer status.
NOTE: Normally immobilizer status should have the value '2'. It is recommended to change it if it is different.
Write keys to Comfort module dump:
Key 1: 21C2DC8F
Program transponder
Key 5: 00000000
Program transponder
Key 2: 0269B8A5
Program transponder
Key 6: 00000000
Program transponder
Key 3: 00000000
Program transponder
Key 7: 00000000
Program transponder
Key 4: 00000000
Program transponder
Key 8: 00000000
Program transponder
Change immobilizer status:
Immo status: 2
Set
OK
CANCEL

Keys with data “00000000” represent the empty positions in the dump file (position at which no key is learned). The rest are already occupied positions and represent the data of the learned at the respective positions keys.
With pressing a “Program transponder” button (and if a programmer is recognized) the current transponder is read and it's data is written at the corresponding (to the pressed button position) position in the dump file (for example pressing “Program transponder” button next to “Key 4:” data will write transponder's data at position 4 in the dump).
After current transponder is read, if it 's type is appropriate (TA3), it is also allowed to program transponder as dealer key. You will be asked whether you like to do it.
In short if you put a TA3 transponder and program it to a specified position, the car should start without making any key-learning procedure.
By pressing OK, all changes in dump's data will be saved.
By pressing CANCEL, the loaded dump will remain unchanged.

-ECU EDC16 Set component protection data [95320]

Required license: AN009

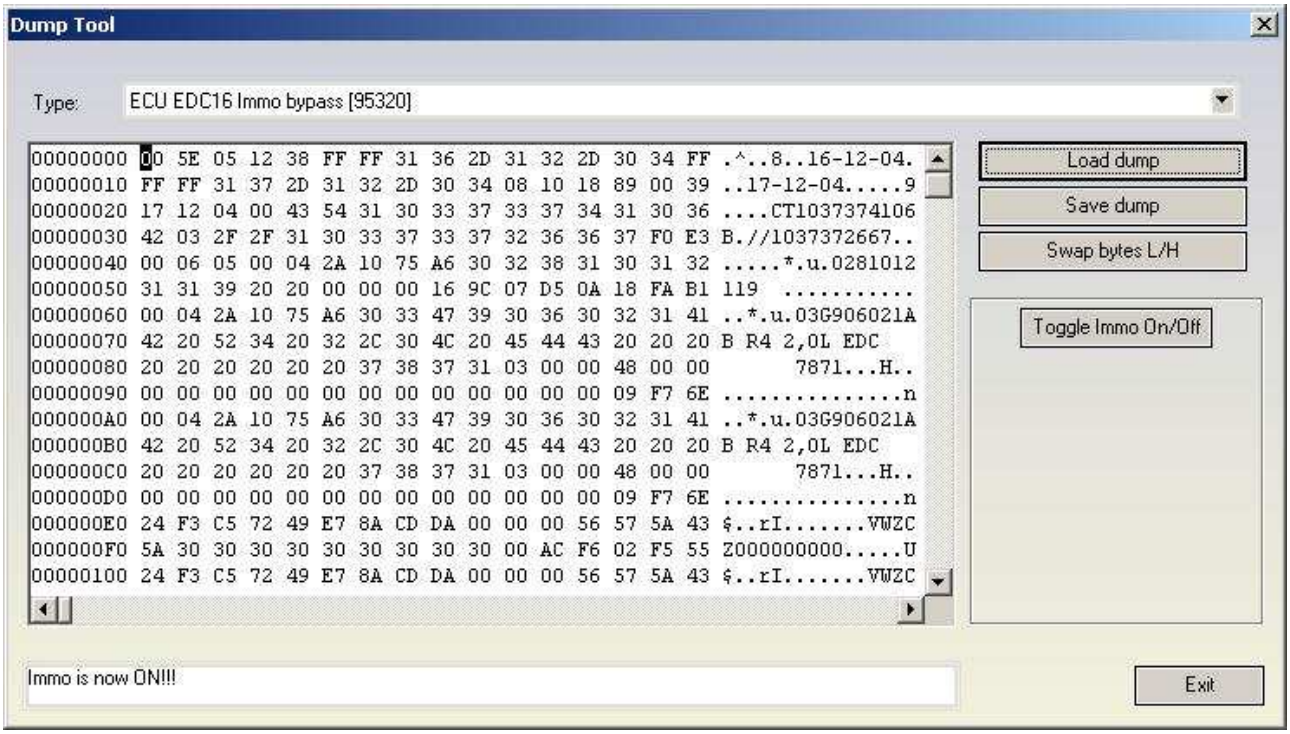
This function allows viewing and/or changing the component protection data found into the EDC16. Into the EDC16 there are at least 6 bytes of the component protection found, or sometimes there are 7 bytes. If there are 6 bytes contained, then the 7th byte is zero.



-**ECU EDC16 Immo bypass [95320]**

Required license: None

This function is used to make the so called “Immobilizer bypass”. Bypassing the immobilizer means that the ECU start the engine even if the immobilizer is not allowing the engine start (e.g. due to a wrong key or wrong synchronization between the immobilizer and the ECU)

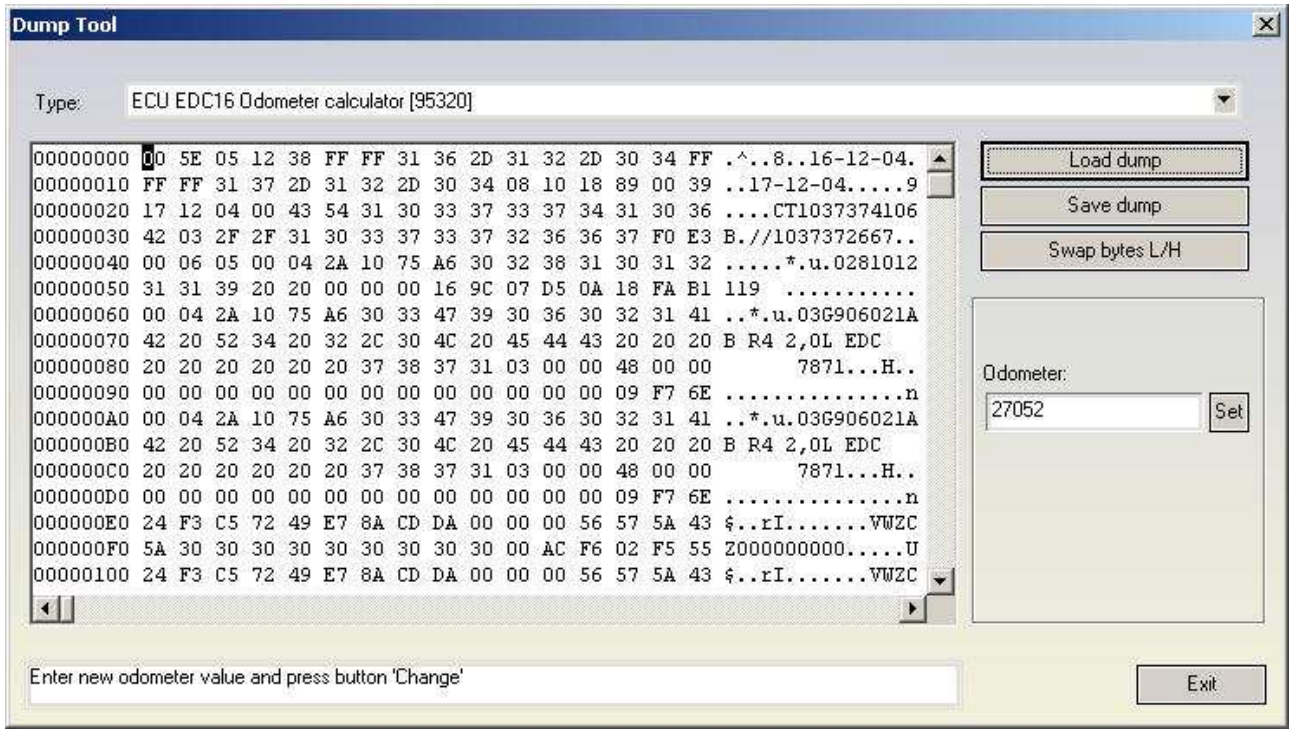


The “Toggle Immo On/Off” button allows to switch on/off alternatively the bypass function.

-**ECU EDC16 Odometer calculator [95320]**

Required license: None

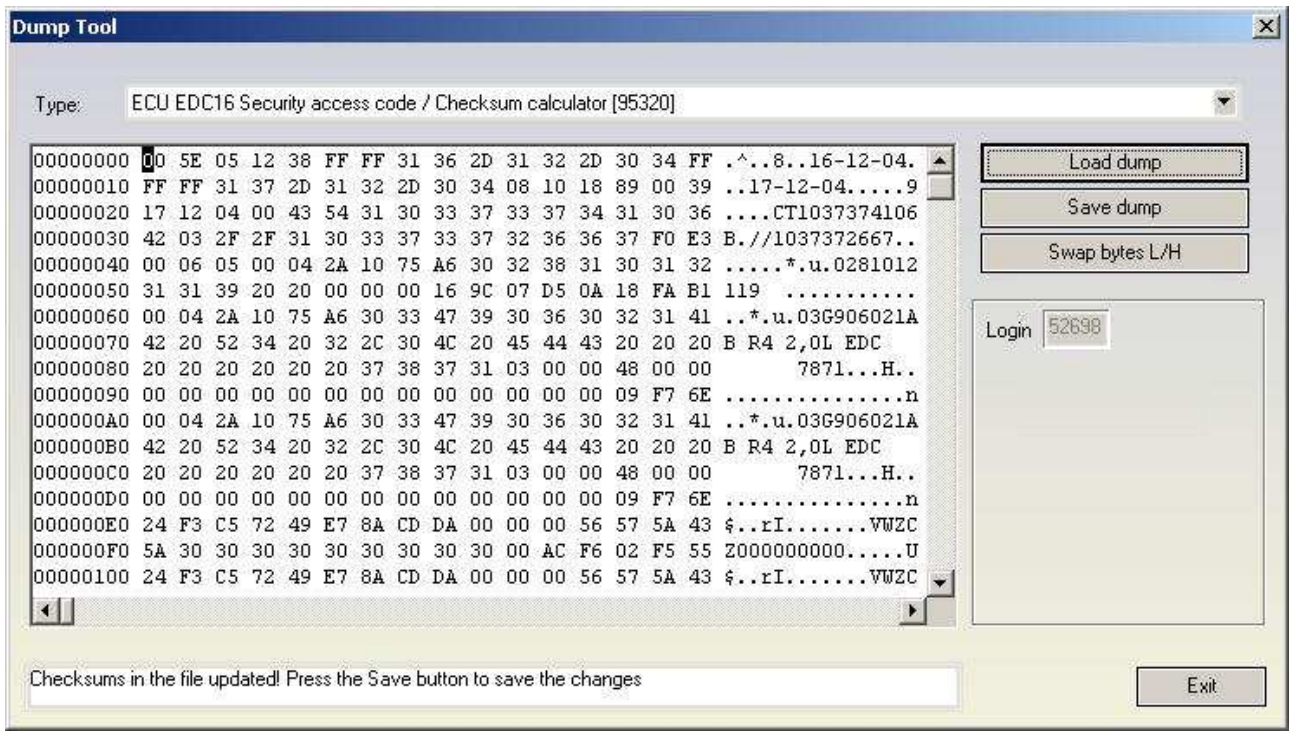
This function changes the odometer value contained into the EDC16 ECU. Just put the new odometer value and press “Set” button, and then save the dump.



-**ECU EDC16 Security access code / Checksum calculator [95320]**

Required license: None

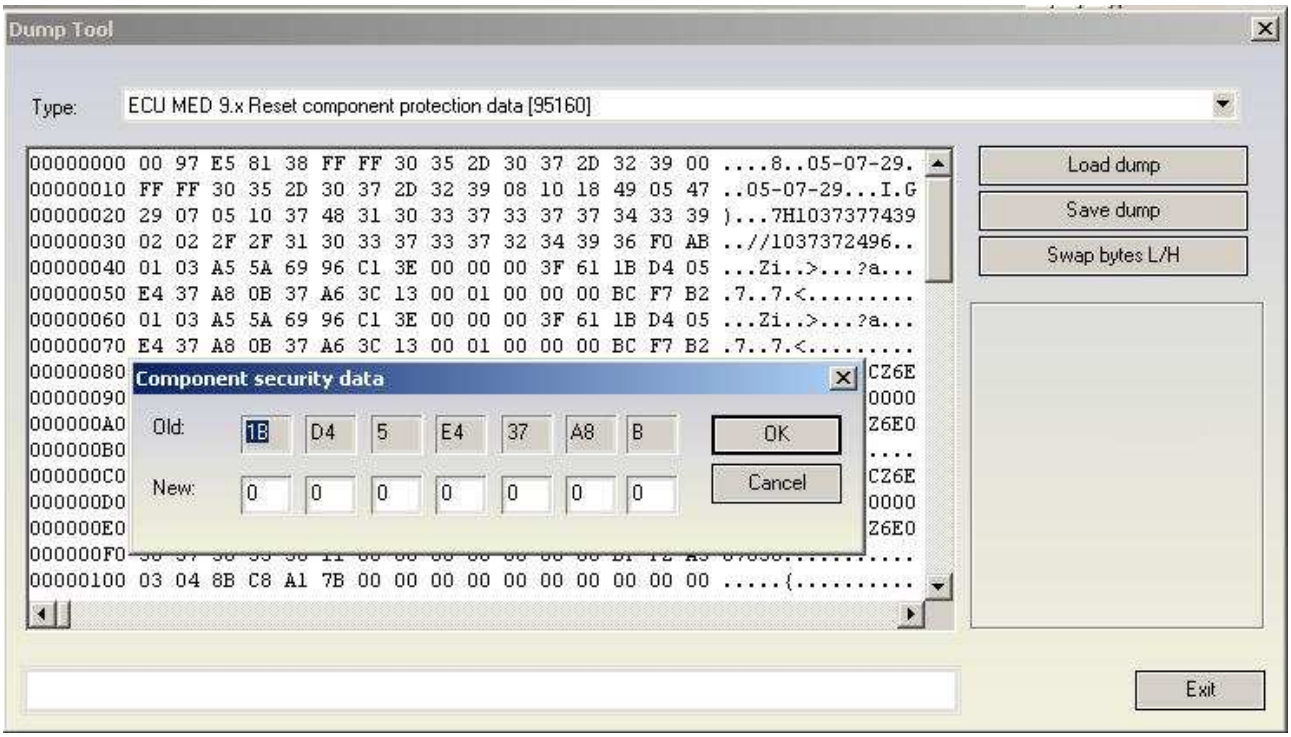
This function displays the security access code which is contained into the EDC16 unit. It also calculates and fixes (if some of them are incorrect) the checksums of the EEPROM. Please pay attention that the checksums are calculated for the area till address 0x180 because after that area the EEPROM sections are different for each different software version of the EDC16 unit. Fortunately the most of the interesting data are found in this section.



-**ECU MED 9.x Reset component protection data [95160]**

Required license: AN009

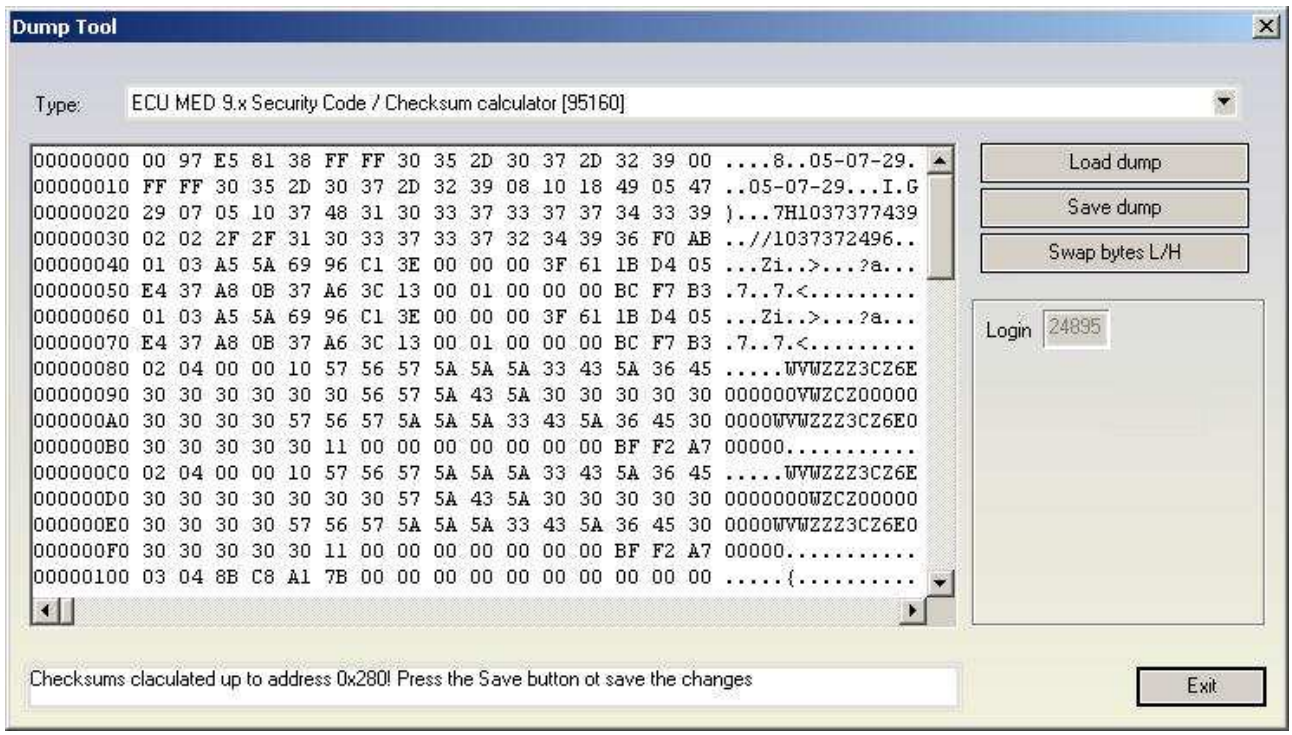
This function allows viewing and/or changing the component protection data found into the MED9x with ST95160 serial EEPROM. Into the MED9x there are at least 6 bytes of the component protection found, or sometimes there are 7 bytes. If there are 6 bytes contained, then the 7th byte is zero. Please pay attention that for some MED9.1 ECUs the data (security access code and component protection data) are encrypted and in that case they are incorrectly displayed. You can recognize whether the EEPROM data are encrypted by trying to put the visualized security access code to some detail (e.g. ECU or immobilizer)



-**ECU MED 9.x Security Code / Checksum calculator [95160]**

Required license: AN003

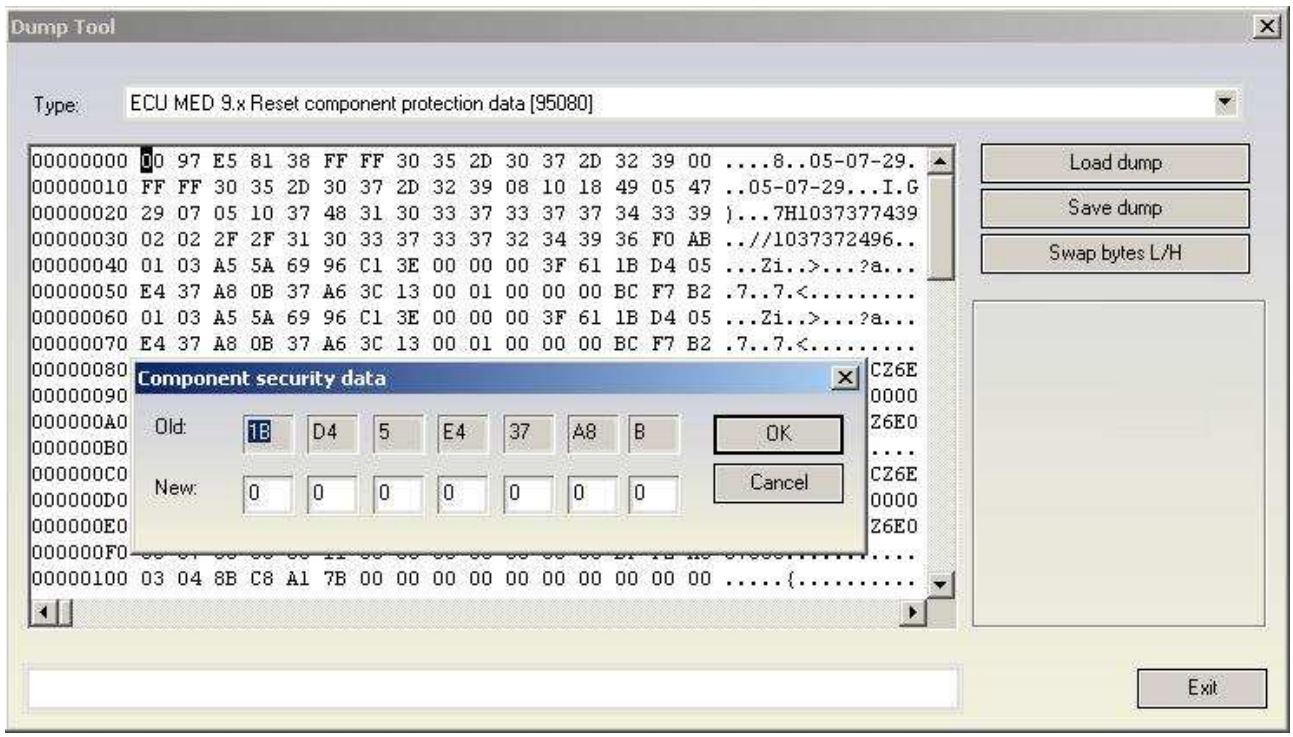
This function displays the security access code which is contained into the MED9x unit with ST95160 serial EEPROM. It also calculates and fixes (if some of them are incorrect) the checksums of the EEPROM. Please pay attention that the checksums are calculated for the area till address 0x280 because after that area the EEPROM sections are different for each different software version of the MED9 unit. Fortunately the most of the interesting data are found in this section. Please pay attention that for some MED9.1 ECUs the data (security access code and component protection data) are encrypted and in that case they are incorrectly displayed. You can recognize whether the EEPROM data are encrypted by trying to put the visualized security access code to some detail (e.g. ECU or immobilizer)



-**ECU MED 9.x Reset component protection data [95080]**

Required license: AN009

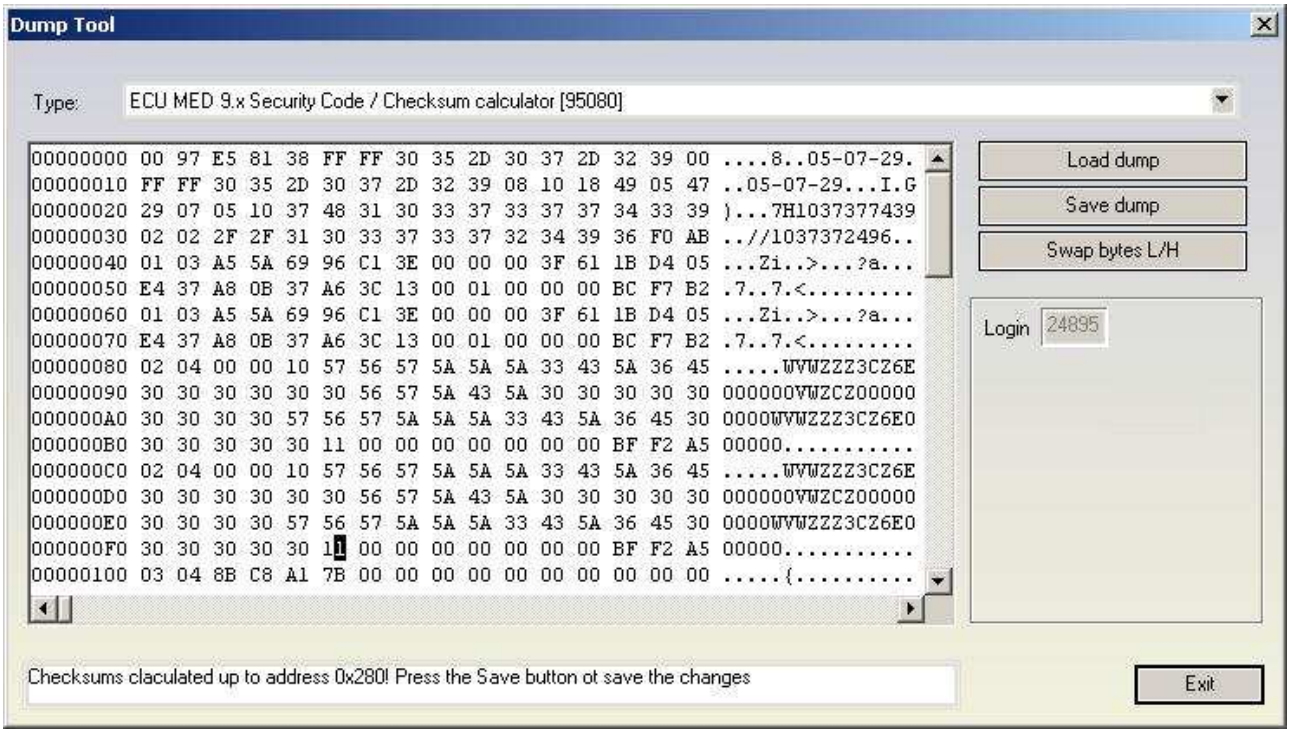
This function allows to view and/or change the component protection data found into the MED9x with ST95080 serial EEPROM. Into the MED9x there are at least 6 bytes of the component protection found, or sometimes there are 7 bytes. If there are 6 bytes contained, then the 7th byte is zero. Please pay attention that for some MED9.1 ECUs the data (security access code and component protection data) are encrypted and in that case they are incorrectly displayed. You can recognize whether the EEPROM data are encrypted by trying to put the visualized security access code to some detail (e.g. ECU or immobilizer)



-**ECU MED 9.x Security Code / Checksum calculator [95080]**

Required license: AN003

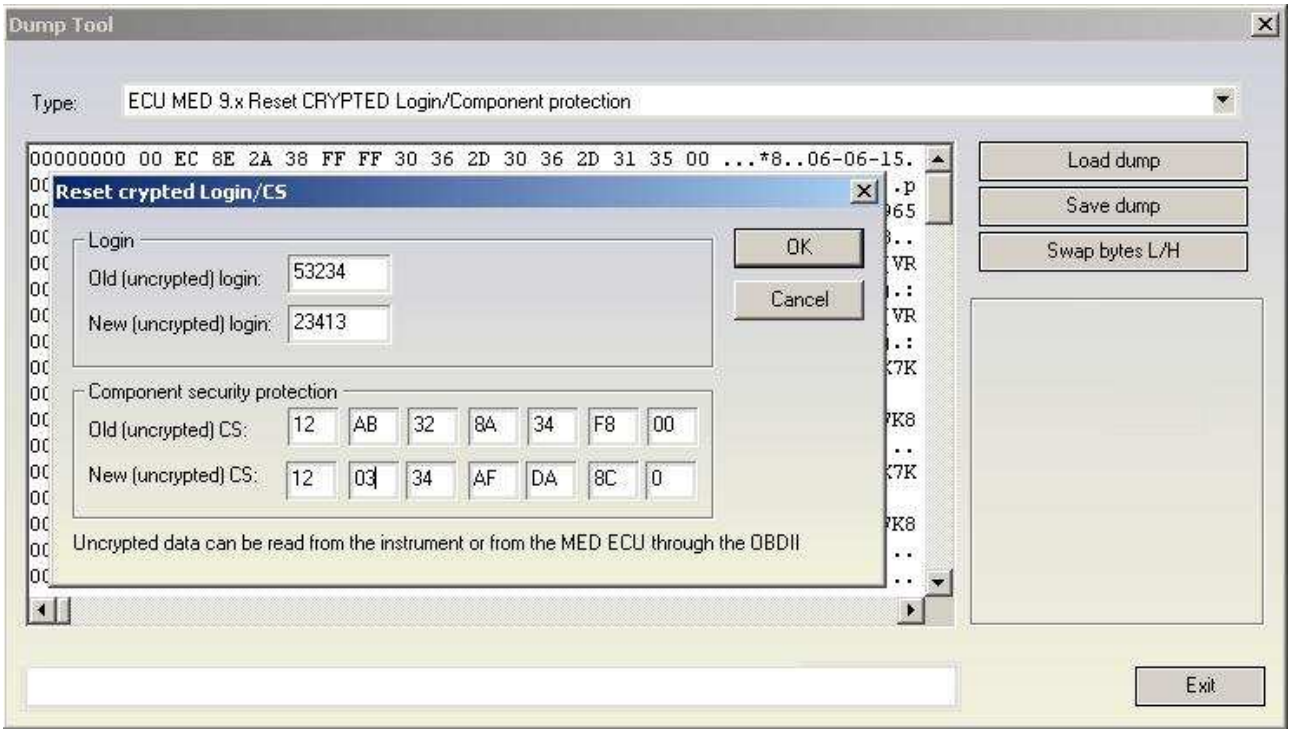
This function displays the security access code which is contained into the MED9x unit with ST95080 serial EEPROM. It also calculates and fixes (if some of them are incorrect) the checksums of the EEPROM. Please pay attention that the checksums are calculated for the area till address 0x280 because after that area the EEPROM sections are different for each different software version of the MED9 unit. Fortunately the most of the interesting data are found in this section. Please pay attention that for some MED9.1 ECUs the data (security access code and component protection data) are encrypted and in that case they are incorrectly displayed. You can recognize whether the EEPROM data are encrypted by trying to put the visualized security access code to some detail (e.g. ECU or immobilizer)



-**ECU MED 9.x Reset CRYPTED Login/Component protection**

Required license: AN009

The function allows changing the security access code and the component protection data into MED9.1 ECUs for which the EEPROM is encrypted. As mentioned previously for some MED9.1 ECUs the data (security access code and component protection data) are encrypted and in that case they are incorrectly displayed. You can recognize whether the EEPROM data are encrypted by trying to put the visualized security access code to some detail (e.g. ECU or immobilizer). Changing the security access code and the component protection data into the ECU requires that the original (uncrypted) data are entered. These data can be read e.g. from the Immobilizer/Instrument if possible and are entered into the “Old” fields. E.g. for Audi RS4 the MED9.1 ECUs are with encrypted EEPROM, but the login and component protection data can be taken from the RB8 instrument cluster.

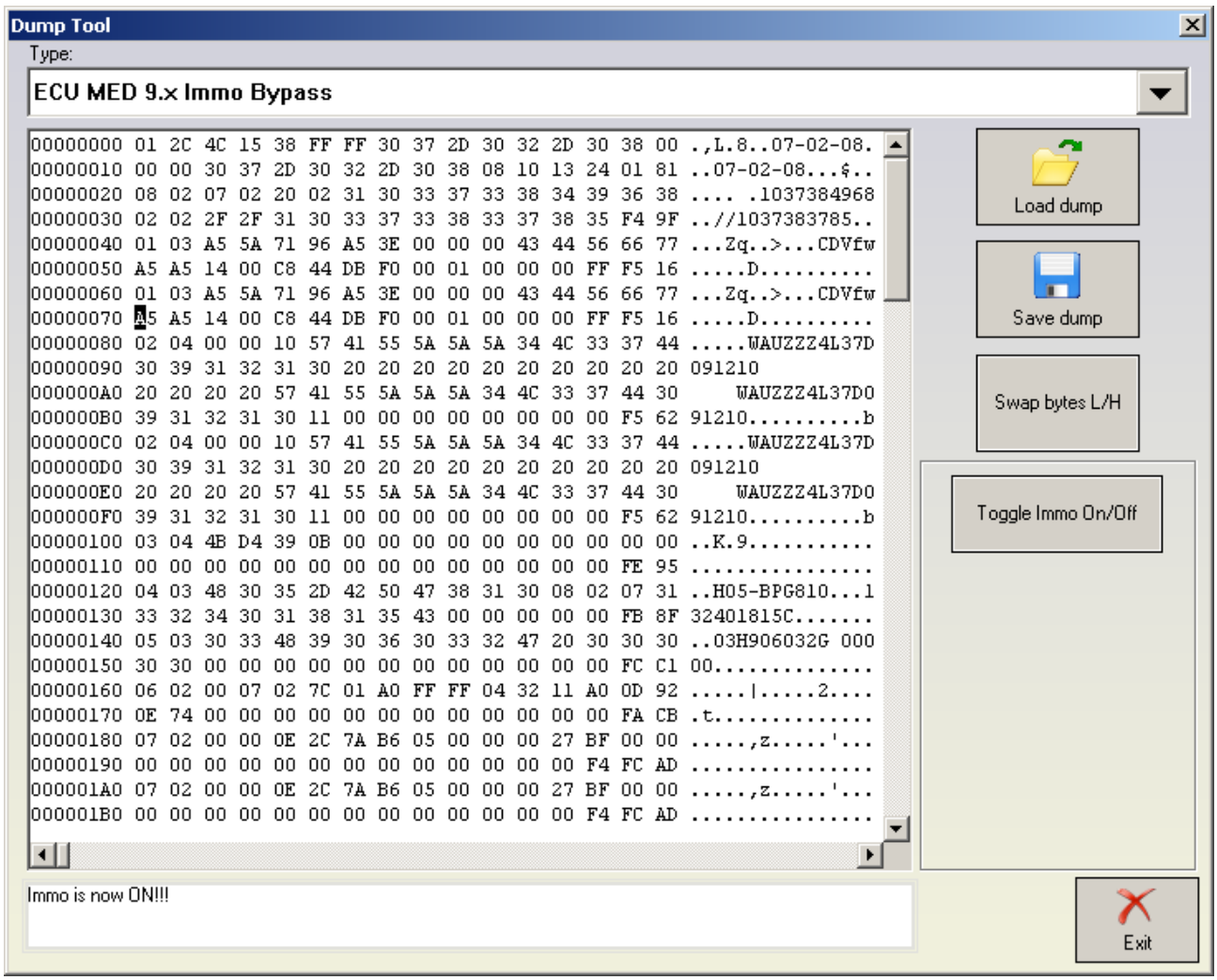

Dump Tool
Type:
ECU MED 9.x Reset CRYPTED Login/Component protection
00000000 00 EC 8E 2A 38 FF FF 30 36 2D 30 36 2D 31 35 00 ...*8..06-06-15.
Load dump
Save dump
Swap bytes L/H
Reset crypted Login/CS
Login
Old (uncrypted) login:
53234
New (uncrypted) login:
23413
OK
Cancel
Component security protection
Old (uncrypted) CS:
12 AB 32 8A 34 F8 00
New (uncrypted) CS:
12 03 34 AF DA 8C 0
Uncrypted data can be read from the instrument or from the MED ECU through the OBDII
Exit

-**ECU MED 9x Immo bypass**

Required license: AN012-B

This function allows you to make a immobilizer bypass for the MED9 engine control units. It works on the unencrypted engine control units, but also on the encrypted too, but on some encrypted engine control units it might not work.

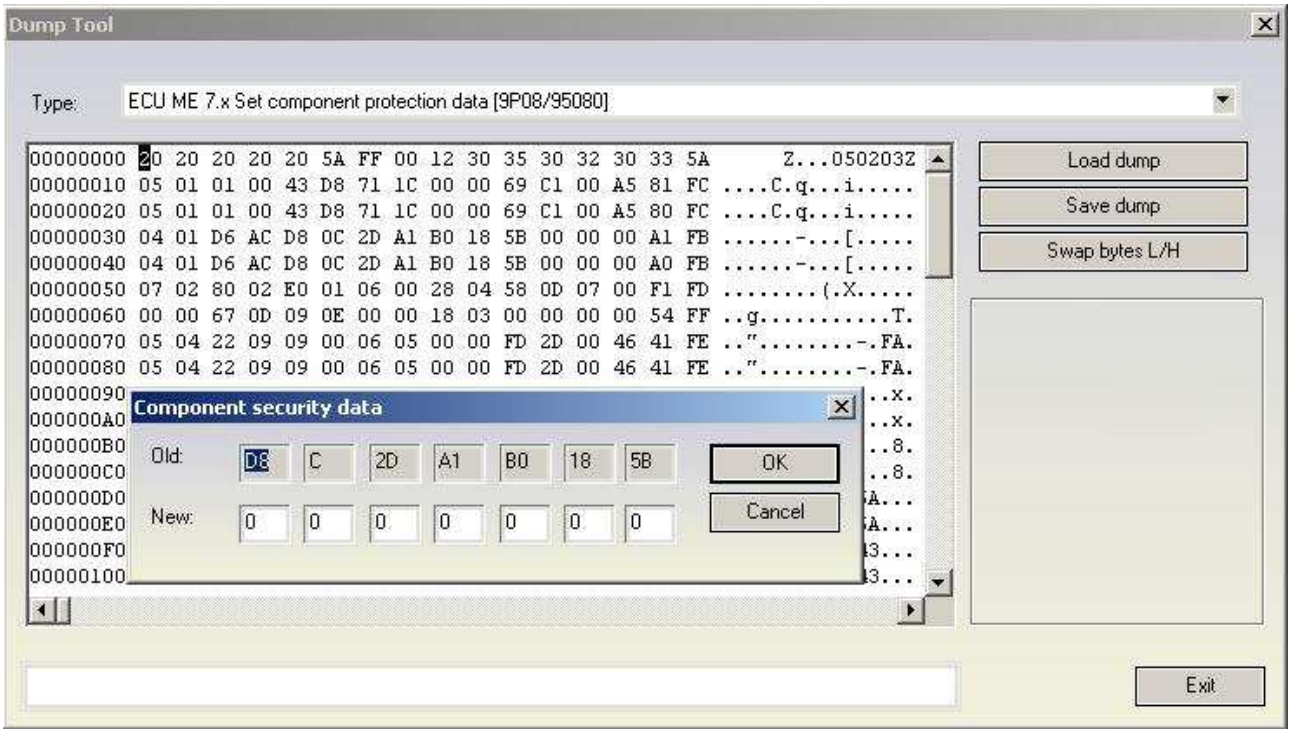
ATTENTION: For the encrypted MED9.x ECUs it is necessary to make changes in the flash too! So after you will need to give also the ECU flash and EEPROM as input, and after the modifications to write back the modified flash and EEPROM to the ECU. Unencrypted MED9x require only EEPROM changes. It is automatically recognized whether the ECU is encrypted or not.



-ECU ME 7.x Set component protection data [9P08/95080]

Required license: AN009

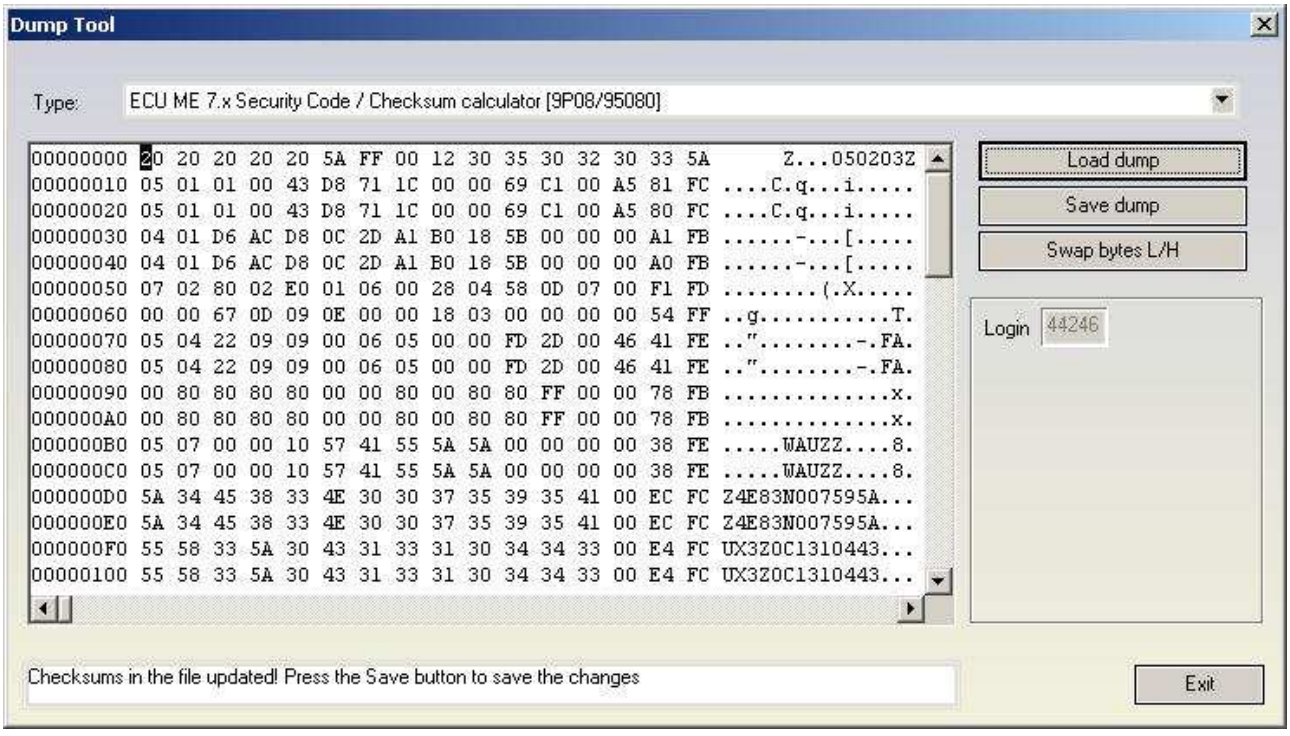
This function allows viewing and/or changing the component protection data found into the ME7x ECUs. Into the ME7x there are at least 6 bytes of the component protection found, or sometimes there are 7 bytes. If there are 6 bytes contained, then the 7th byte is zero.



-ECU ME 7.x Security Code / Checksum calculator [9P08/95080]

Required license: None

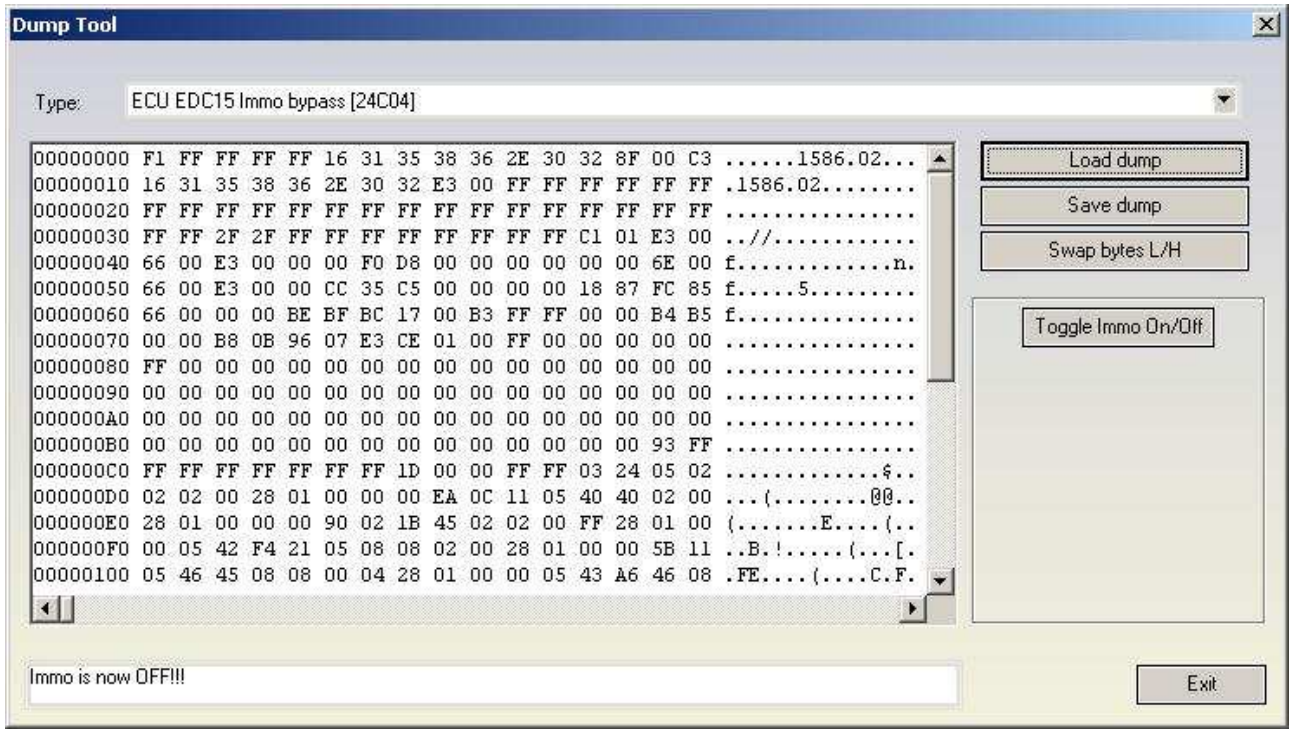
This function displays the security access code which is contained into the ME7 unit. It also calculates and fixes (if some of them are incorrect) the checksums of the EEPROM. Please pay attention that the checksums are calculated for the area only for the first 0x120 bytes because after that area the EEPROM sections are different for each different software version of the ME7x unit. Fortunately the most of the interesting data are found in this section.



-ECU EDC15 Immo bypass [24C04]

Required license: None

This function is used to make the so called “Immobilizer bypass”. Bypassing the immobilizer means that the ECU start the engine even if the immobilizer is not allowing the engine start (e.g. due to a wrong key or wrong synchronization between the immobilizer and the ECU)

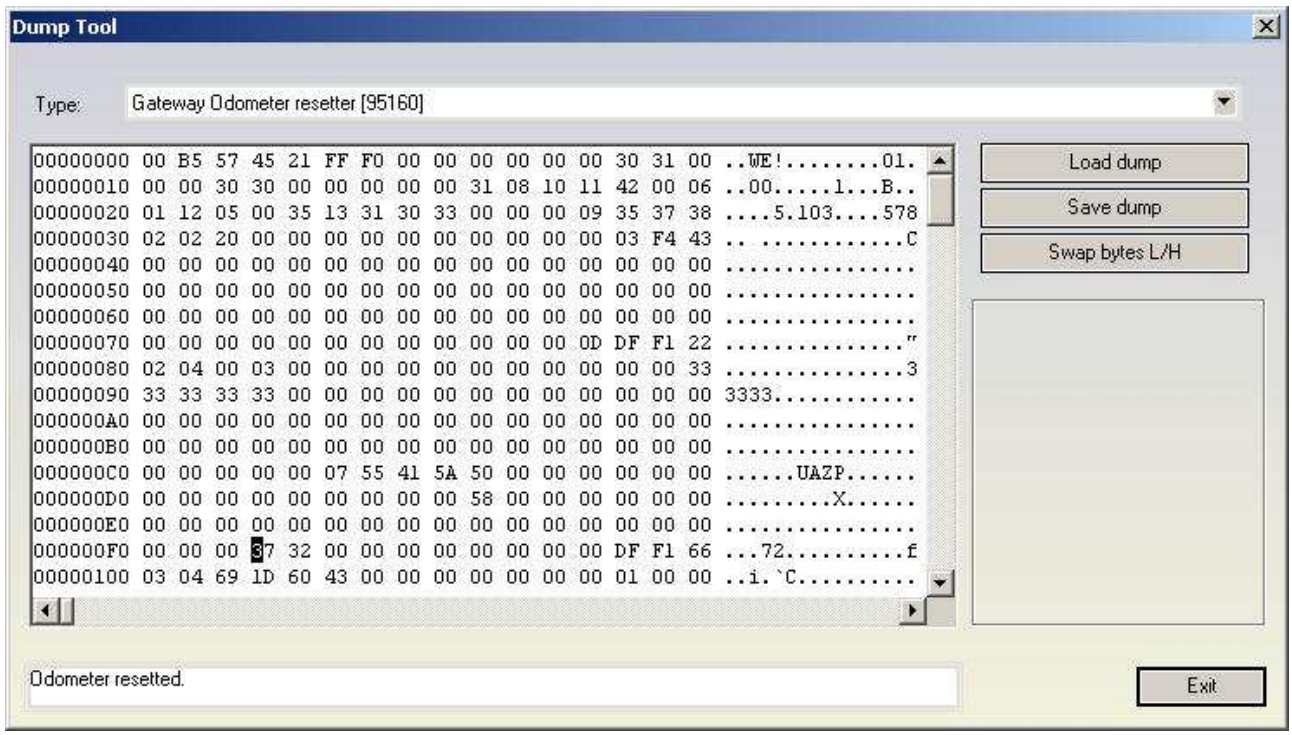


The “Toggle Immo On/Off” button allows to switch on/off alternatively the bypass function.

-**Gateway Odometer resetter [95160]**

Required license: None

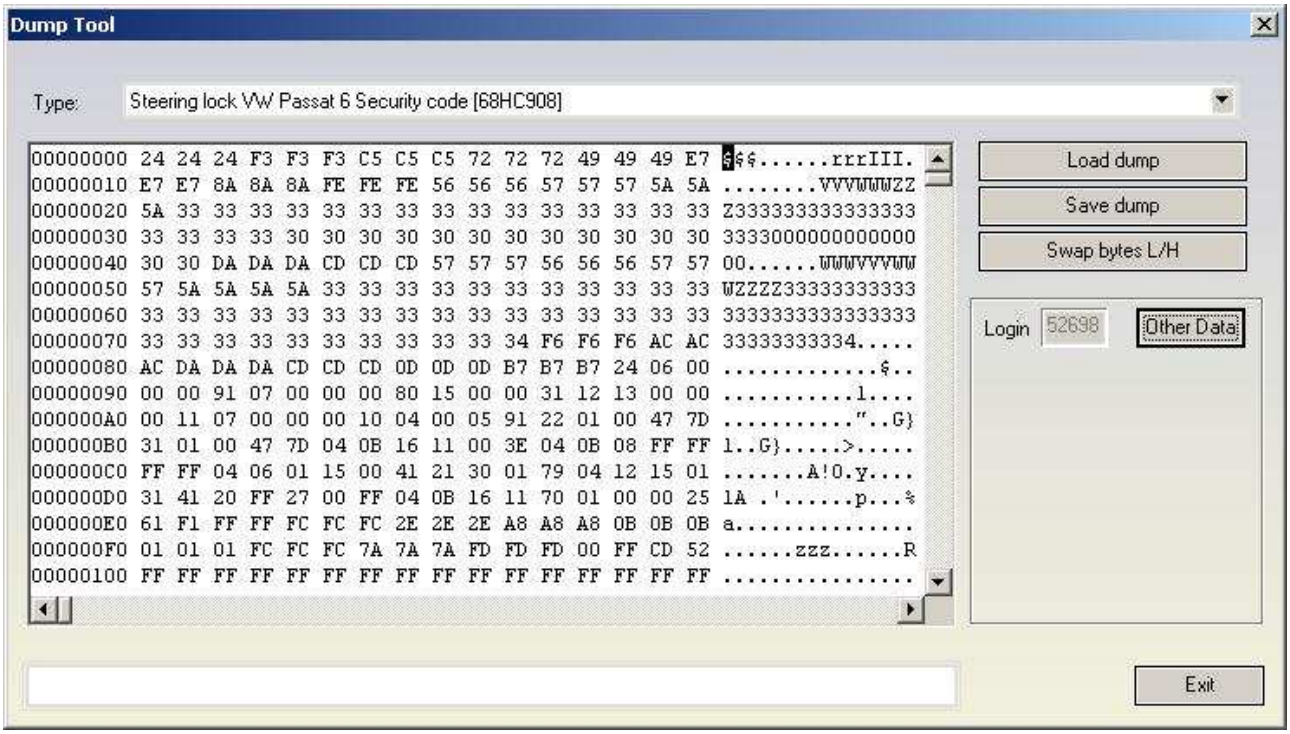
This function resets the odometer value inside the CAN gateway. Actually not all CAN gateways are containing such value, and this value is not exactly a odometer but is proportional to the current mileage, and this function sets this value to zero.



-**Steering lock VW Passat 6 Security code [68HC908]**

Required license: AN003 to view security access code and AN009 to view component protection data.

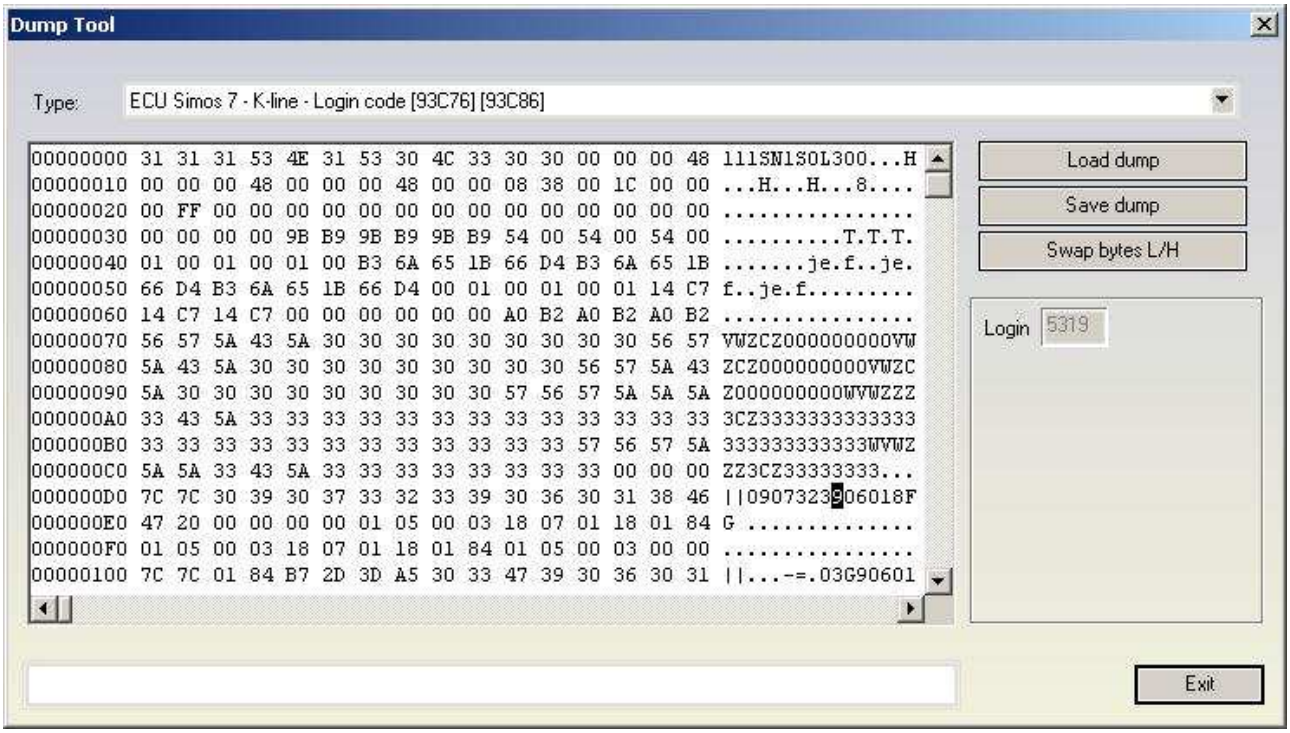
This function displays the security access code contained into the steering column locks of Passat B6 which are with Motorola microcontroller (the unit can be either with ELMOS or Motorola microcontroller). The function displays also the component protection bytes by pressing the “Other data” button”.



-**ECU Simos 7 - K-line - Login code [93C76] [93C86]**

Required license: AN006

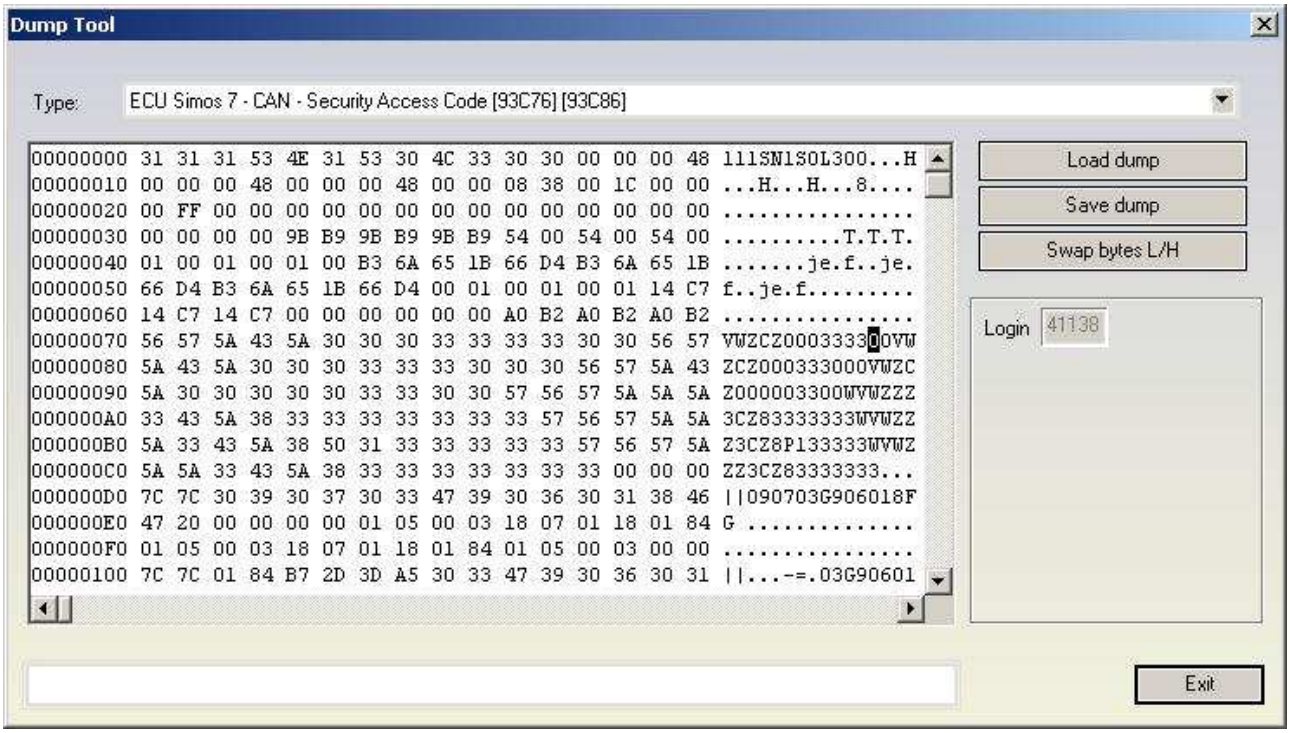
This function displays the security access code contained into the engine control unit from Siemens ECUs (Simos 7x generation which are accessed through K-Line) for benzine engines. Interesting for these ECUs is that the same ECU can be used through K-Line and CAN, and depending which link is used the security access code which is accepted from ECU is different.



-**ECU Simos 7 - CAN - Security Access Code [93C76] [93C86]**

Required license: AN003

This function displays the security access code contained into the engine control unit from Siemens ECUs (Simos 7x generation which are accessed through CAN) for benzine engines. Interesting for these ECUs is that the same ECU can be used through K-Line and CAN, and depending which link is used the security access code which is accepted from ECU is different.

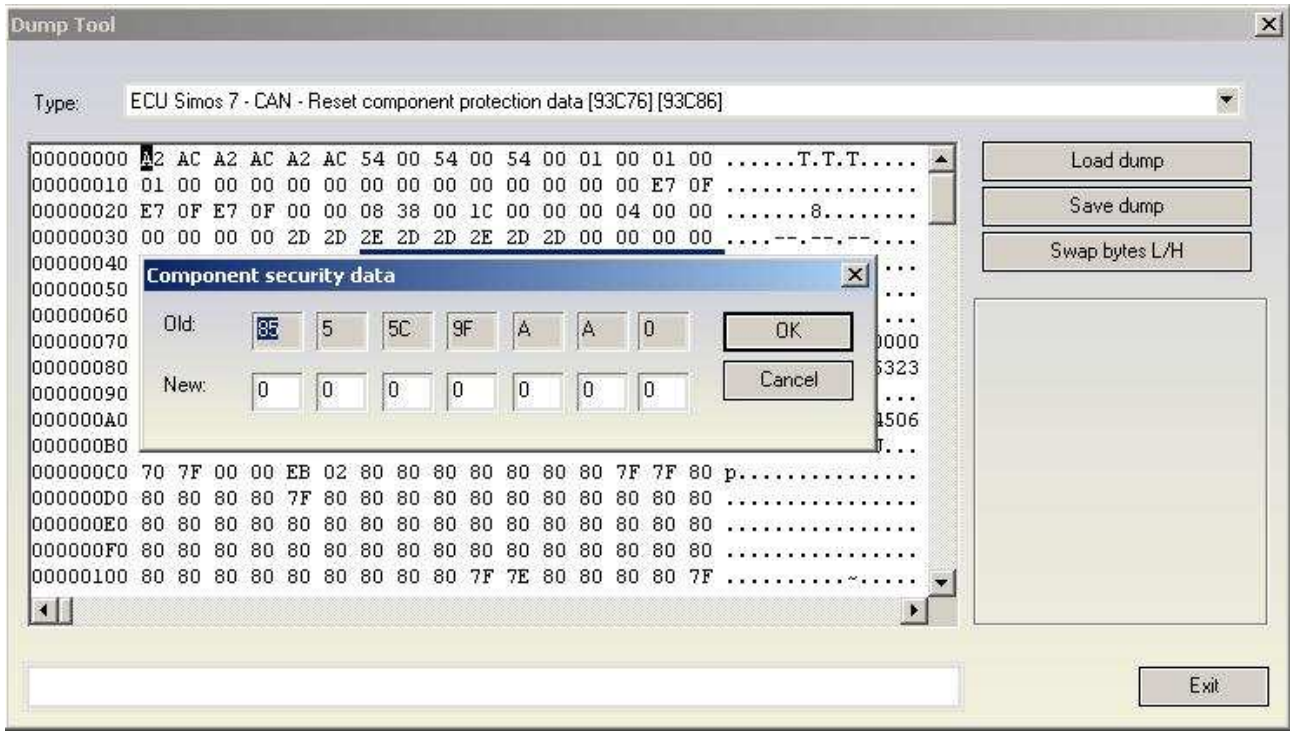


-**ECU Simos 7 - CAN - Reset component protection data [93C76] [93C86]**

Required license: AN009

This function allows viewing and/or changing the component protection data found into the

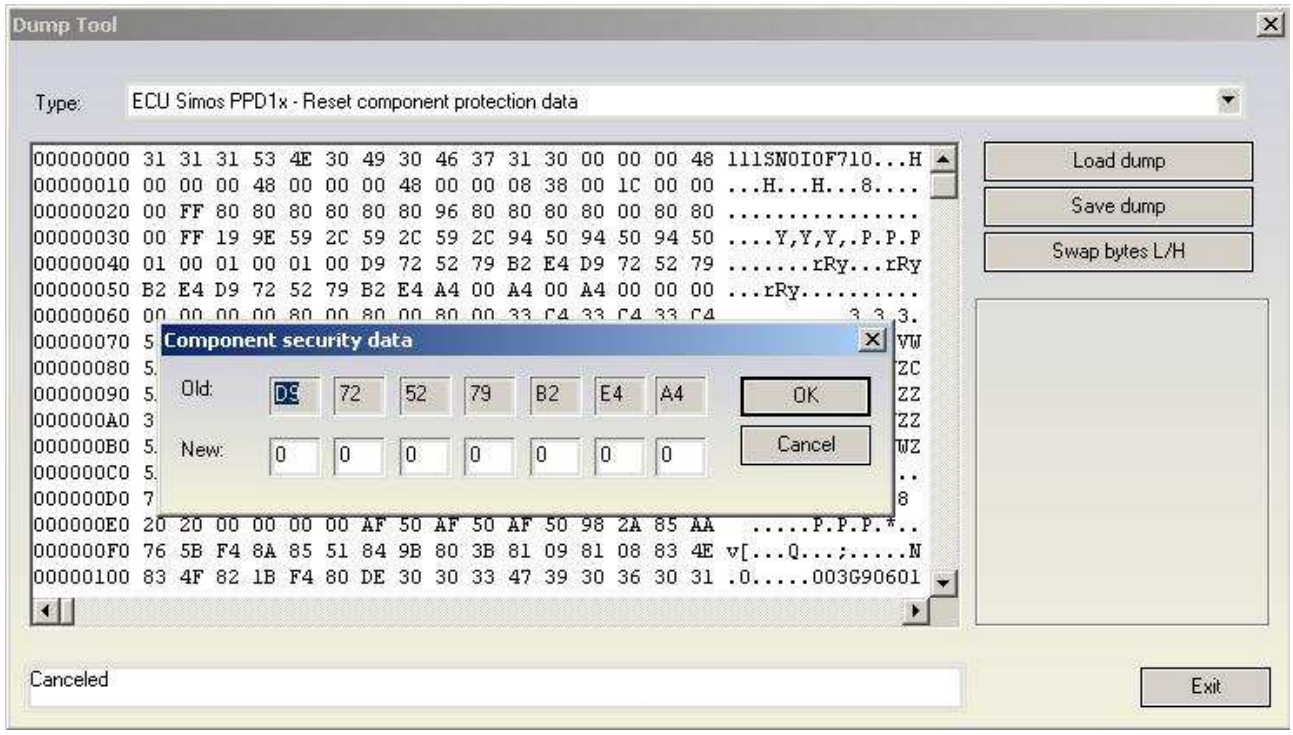
Siemens ECUs (Simos 7x generation which are accessed through K-Line or CAN) for benzine engines. Into the Simos 7x there are at least 6 bytes of the component protection found, or sometimes there are 7 bytes. If there are 6 bytes contained, then the 7th byte is zero.



-**ECU Simos PPD1x - Reset component protection data**

Required license: AN009

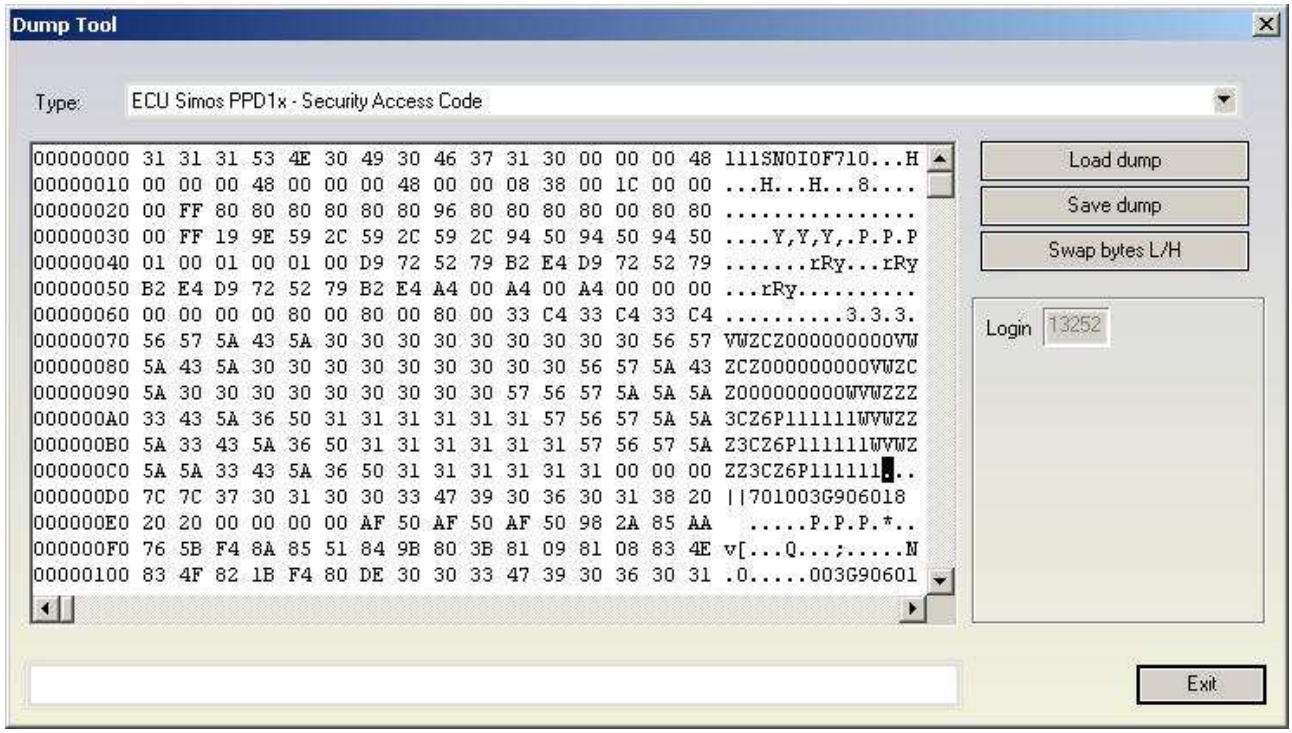
This function allows viewing and/or changing the component protection data found into the Siemens ECUs (Simos PPD1x generation) for diesel engines. Into the PPD1x there are at least 6 bytes of the component protection found, or sometimes there are 7 bytes. If there are 6 bytes contained, then the 7th byte is zero.



-**ECU Simos PPD1x - Security Access Code**

Required license: AN007

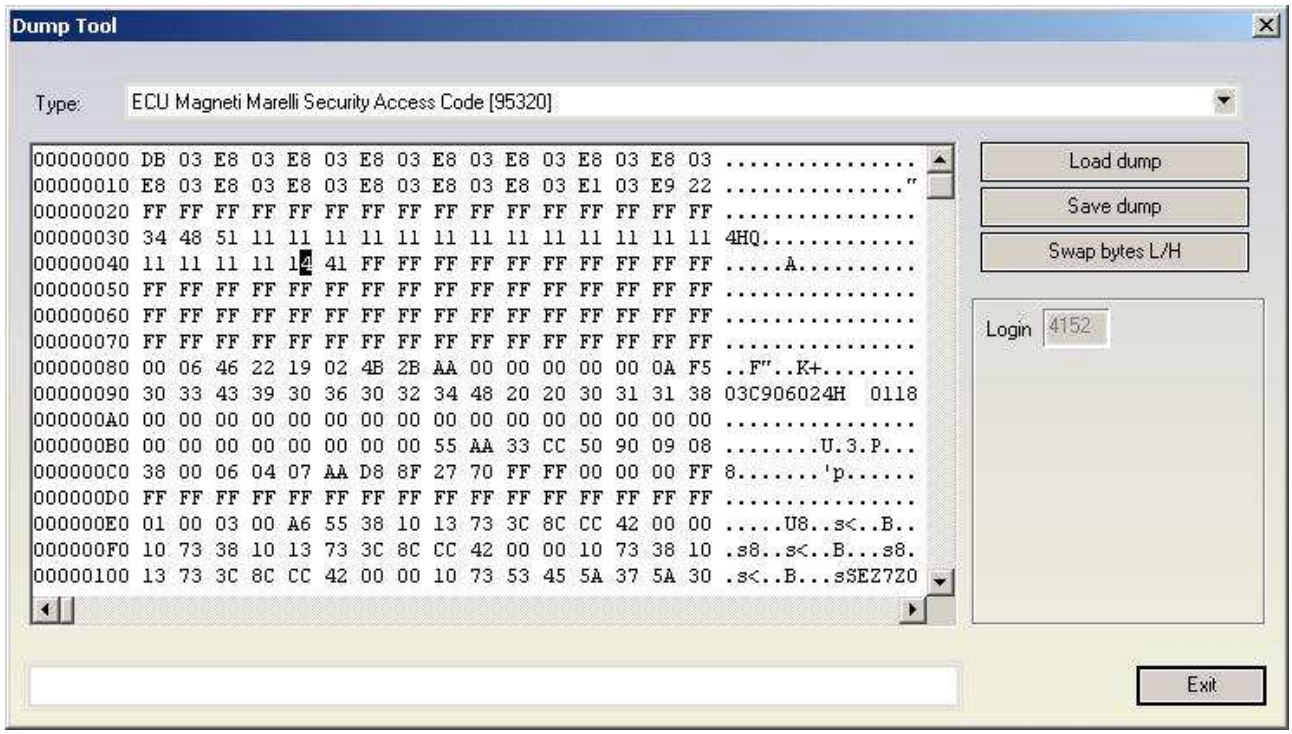
This function displays the security access code contained into the engine control unit from Siemens ECUs (PPD1x generation) for diesel engines.



-**ECU Magneti Marelli Security Access Code [95320]**

Required license: AN003

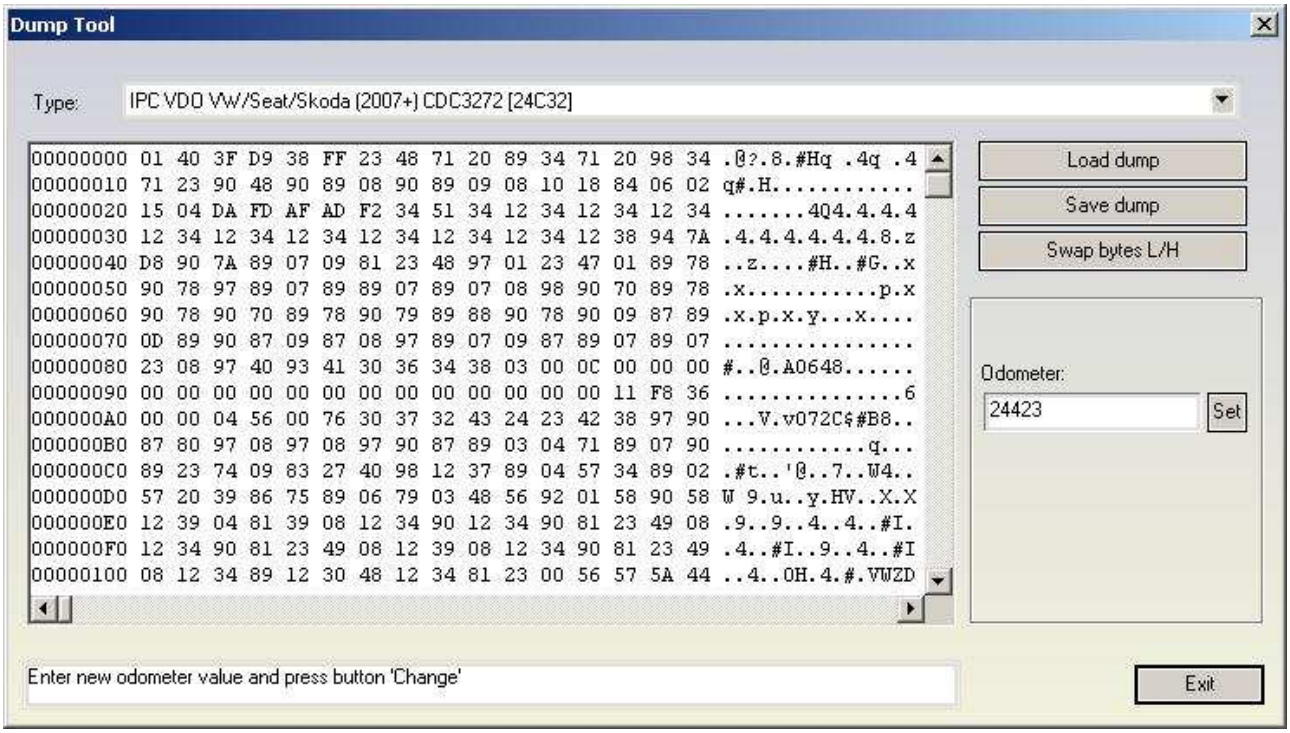
This function displays the security access code contained into the engine control unit from Magneti Marelli.



-**IPC VDO VW/Seat/Skoda (2007+) CDC3272 [24C32]**

Required license: AN002 and AN006

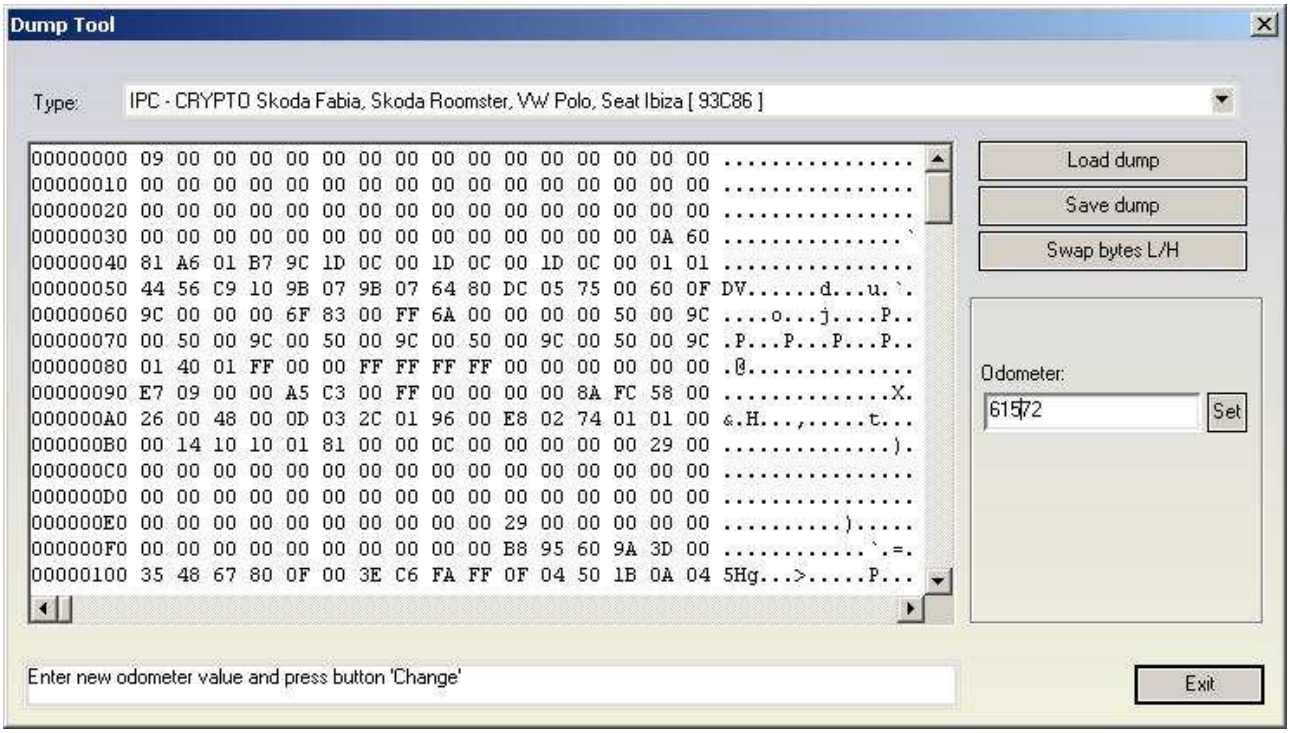
This function is dedicated to change the odometer inside the instruments clusters from VDO with Micronas microcontroller. This function works only on microcontrollers which have the mask of the microcontroller “CDC3272”. If the mask is different then this function will not work. Even with the correct mask it is possible that sometimes you’ve got and “Error” when connecting the instrument cluster after changing the mileage.



-IPC - CRYPTO Skoda Fabia, Skoda Roomster, VW Polo, Seat Ibiza [93C86]

Required license: AN006

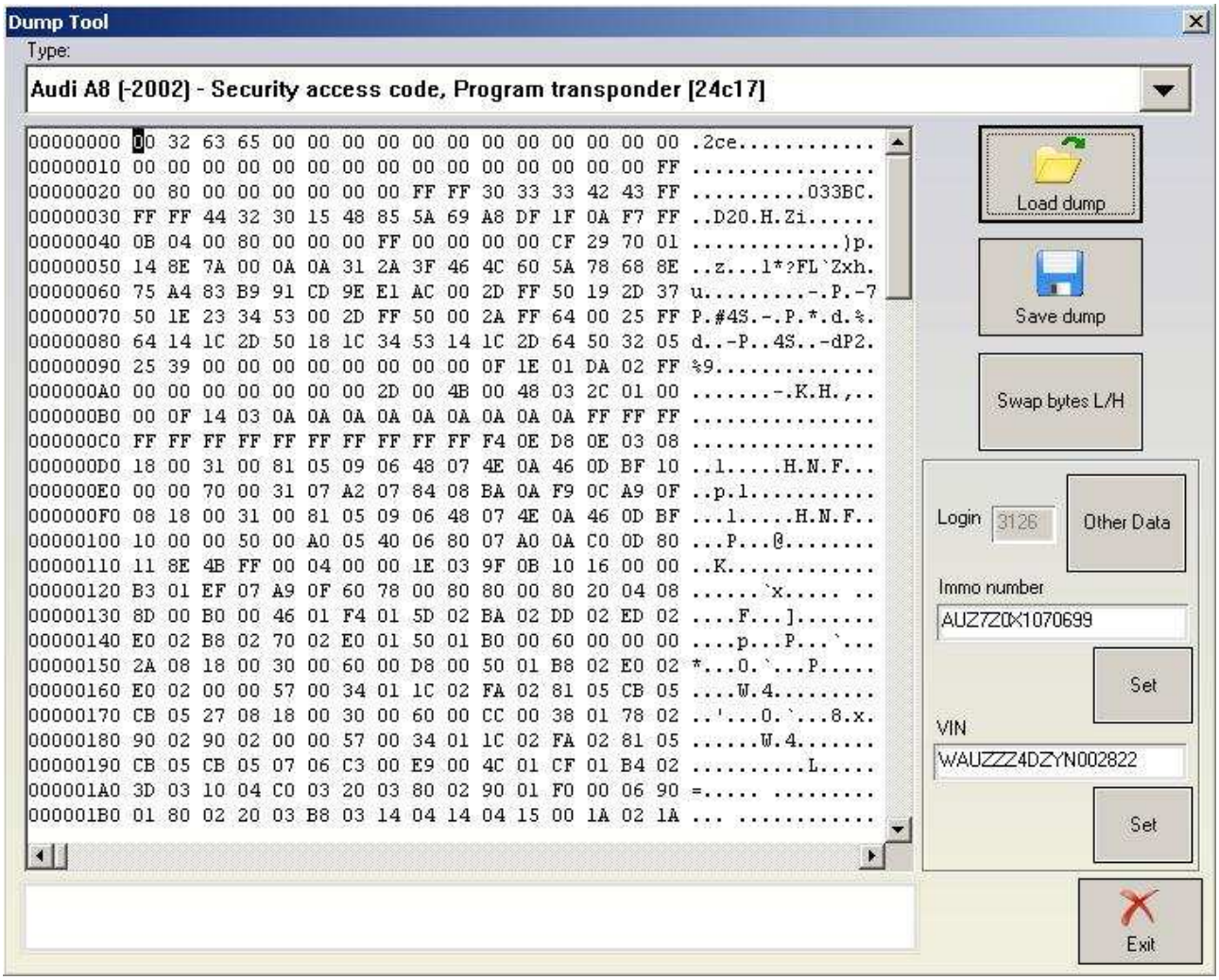
This function changes the odometer for the Skoda Fabia, Skoda Roomster, VW Polo and Seat Ibiza which are with encrypted EEPROMs (year 2007+). Please pay attention that for some of these models it is also possible to read the mileage also by OBDII but it is different than the read with a programmer.



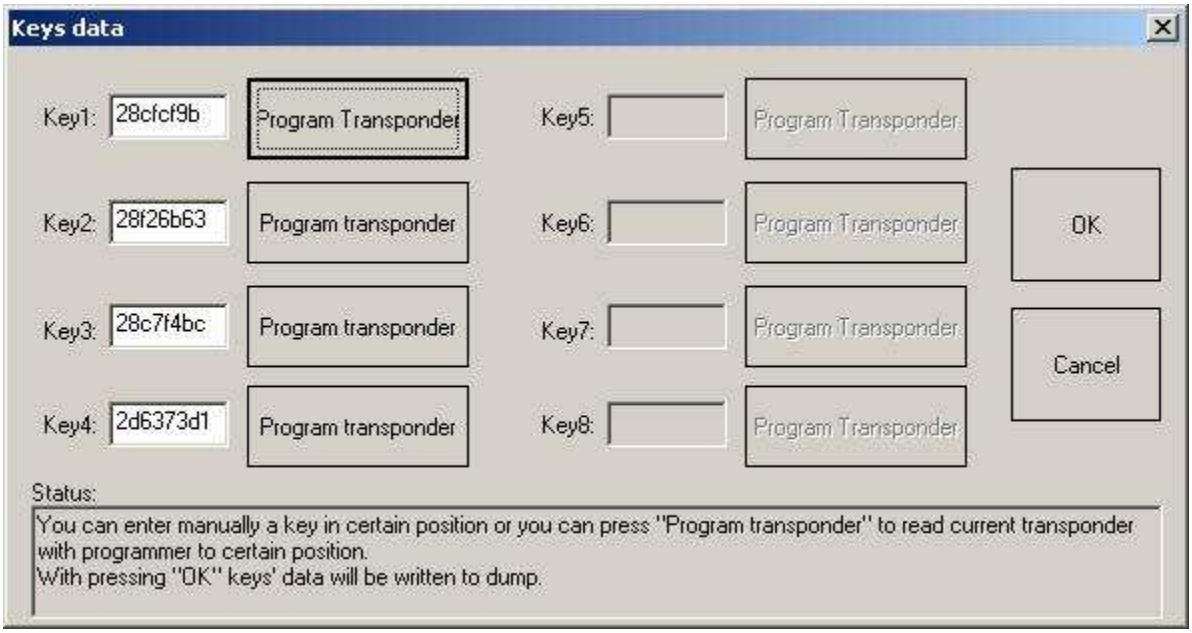
- **Audi A8 (-2002) - Security access code, Program transponder [24c17]**

Required license: AN006 to view security access code and AN009 to write transponder's data to dump.

The function visualize the security access code and also the immobilizer and VIN numbers. It also gives the opportunity to change the immobilizer and VIN numbers.



Pressing the “other data” button displays the learned keys and if a programmer has been recognized, allows to read current transponder's data and add it to the dump.
With pressing a “Program transponder” button (and if a programmer is recognized) the current transponder is read and it's data is written at the corresponding (to the pressed button position) position in the dump file (for example pressing “Program transponder” button next to “Key 4:” data will write transponder's data at position 4 in the dump).
You should use transponder TP08.
By pressing OK, changed data will be written into the dump.
By pressing CANCEL, the loaded dump will remain unchanged.



After you have done all the modifications you wish, you have to press "Save dump" for to save the changes in the dump.

-Audi A3/A4/A6 UKNSI 1995-1997 odometer and login code [93C56] – displays the login and changes odometer. No license required.
-Audi A3/A4/A6 UKNSI 1997-1998 odometer and login code [93C56] – displays the login and changes odometer. No license required.
-Audi A3/A4/A6 UKNSI Japan odometer and login code [93LC56] – displays the login and changes odometer. No license required.
-Audi 100 VDO 1995 odometer [94C46] – changes odometer. No license required.
-Golf 3 VDO 1995 odometer [93C46] – changes odometer. No license required.
-Golf 3 VDO V3.9 odometer [93C46] – changes odometer. No license required.
-Golf 3 Diesel odometer [93C46] – changes odometer. No license required.
-Golf 3 Motometer V5.8 odometer [93C56] – changes odometer. No license required.
-Polo Motometer odometer [93C46] – changes odometer. No license required.
-Polo Motometer 1996 odometer [93C66] – changes odometer. No license required.
-Passat VDO 1991 odometer [93C56] – changes odometer. No license required.
-Passat VD202 1993 odometer [93C46] – changes odometer. No license required.
-Passat GT odometer [93C46] – changes odometer. No license required.
-Passat GT odometer [93C56] – changes odometer. No license required.
-Caddy odometer [93C56] – changes odometer. No license required.
-Corrado VDO 1993 odometer [93C46] – changes odometer. No license required.
-Corrado MotoMeter 1991-1995 odometer [93C56] – changes odometer. No license required.
-Corrado VDO 1991-1995 odometer [93C56] – changes odometer. No license required.
-Jetta 1994-1996 odometer [93C46] – changes odometer. No license required.
-T4 MotoMeter 1996-1997 odometer [93C56] – changes odometer. No license required.